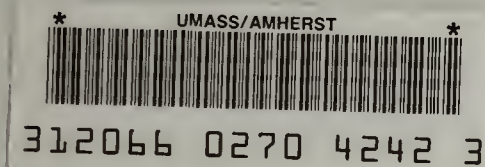


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1997 Coastal Access Grants Program Year-End Grant Summary



Massachusetts Department of Environmental Management

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OVERVIEW

DEM Coastal Access Program:

The Department of Environmental Management's (DEM) Coastal Access Program promotes the general public's ability to get to and along the Massachusetts coast, and is based upon the principle that the coastline should be as open, accessible, and approachable as possible for all citizens and visitors. The program addresses these issues by: 1) providing financial assistance through the grants program; 2) providing technical assistance through planning assistance, workshops, presentations, connections with free legal and mediation services, administrative help with new citizen organizations, etc.; and 3) coastal land acquisition planning for DEM.

Coastal Access Grants Program:

The DEM Coastal Access Grants Program supports projects that enhance the general public's access to the coastline. "Coastal access" is defined here as general public access (as opposed to residents-only) to and along the coastline (as opposed to boat access to the water). Eligible applicants included municipalities, nonprofit organizations, and regional planning agencies. The maximum grant award in 1997, the third year of the program, was \$3,000. Principal categories of funding included: 1) researching and establishing new public coastal access opportunities; 2) reclaiming historically public ways to the sea; 3) enhancing or restoring existing access points or facilities; and 4) developing educational initiatives around the issues of public coastal access. Twenty-five projects were supported by the grants program in 1997 for a total of \$69,500. Recipients indicate that many of these projects would not have been accomplished without this funding.

In addition, the program has begun to provide networking assistance through such means as producing and circulating written "project profiles," coordinating workshops for grant recipients and others with similar interests, holding annual events that bring all grant recipients together to share ideas and information and to receive public recognition for their work, and providing connections with other technical assistance programs.

In 1997, the grants program received the 1997 Comprehensive Planning Award from the Massachusetts Chapter of the American Planning Association.

Report Format:

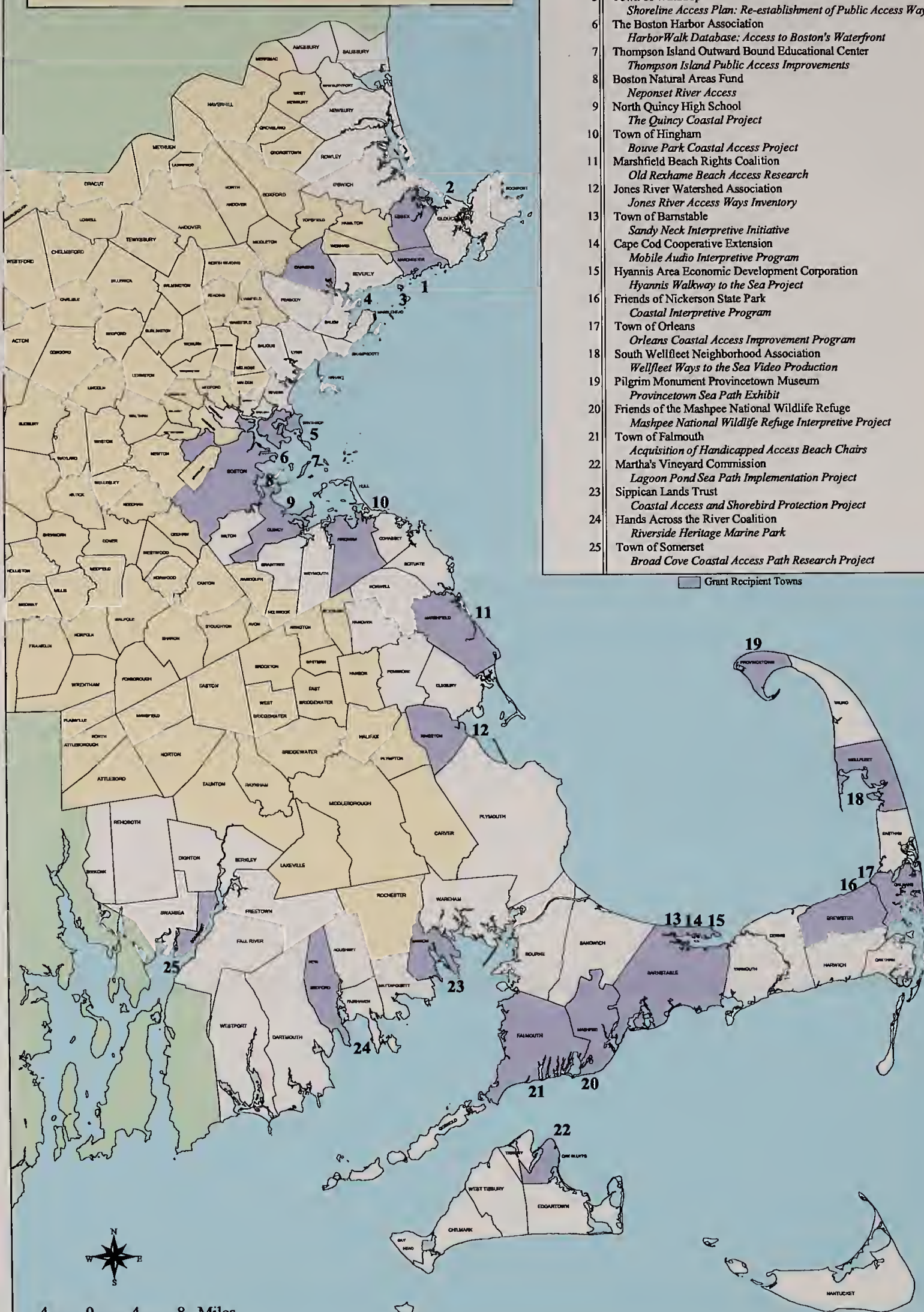
This summary of the 1997 grants program includes a locus map of the projects funded, and application form, and then individual reports for each project. Each report includes a cover sheet with contact information, a photograph, and a paragraph summary, plus a detailed locus map, and the narrative summary submitted by the grant recipient. The reports vary in detail and style, but communicate the project and related achievements in the proponents' own words.

(For more information, please contact Geordie Vining, DEM Coastal Access Planner, 100 Cambridge Street, Room 1404, Boston, MA, 02202; tel: (617) 727-3160 x528; fax: (617) 727-2630; email: geordie.vining@state.ma.us.)

1997 Coastal Access Grant Projects

Number	Project
1	Brookwood School <i>Coastal Connections Curriculum Development & Educator Training</i>
2	Essex County Greenbelt Association <i>Coastal Educator's Passport</i>
3	Trustees of Reservations <i>Ferry Service to Mistry Island</i>
4	Town of Danvers <i>Establishment of Public Access Ways</i>
5	Town of Winthrop <i>Shoreline Access Plan: Re-establishment of Public Access Ways</i>
6	The Boston Harbor Association <i>HarborWalk Database: Access to Boston's Waterfront</i>
7	Thompson Island Outward Bound Educational Center <i>Thompson Island Public Access Improvements</i>
8	Boston Natural Areas Fund <i>Neponset River Access</i>
9	North Quincy High School <i>The Quincy Coastal Project</i>
10	Town of Hingham <i>Bouve Park Coastal Access Project</i>
11	Marshfield Beach Rights Coalition <i>Old Rexhame Beach Access Research</i>
12	Jones River Watershed Association <i>Jones River Access Ways Inventory</i>
13	Town of Barnstable <i>Sandy Neck Interpretive Initiative</i>
14	Cape Cod Cooperative Extension <i>Mobile Audio Interpretive Program</i>
15	Hyannis Area Economic Development Corporation <i>Hyannis Walkway to the Sea Project</i>
16	Friends of Nickerson State Park <i>Coastal Interpretive Program</i>
17	Town of Orleans <i>Orleans Coastal Access Improvement Program</i>
18	South Wellfleet Neighborhood Association <i>Wellfleet Ways to the Sea Video Production</i>
19	Pilgrim Monument Provincetown Museum <i>Provincetown Sea Path Exhibit</i>
20	Friends of the Mashpee National Wildlife Refuge <i>Mashpee National Wildlife Refuge Interpretive Project</i>
21	Town of Falmouth <i>Acquisition of Handicapped Access Beach Chairs</i>
22	Martha's Vineyard Commission <i>Lagoon Pond Sea Path Implementation Project</i>
23	Sippican Lands Trust <i>Coastal Access and Shorebird Protection Project</i>
24	Hands Across the River Coalition <i>Riverside Heritage Marine Park</i>
25	Town of Somerset <i>Broad Cove Coastal Access Path Research Project</i>

Grant Recipient Towns





ANNOUNCING



The 1997 Coastal Access Small Grants Program

*Massachusetts Executive Office of Environmental Affairs
Department of Environmental Management*

The Massachusetts Department of Environmental Management (DEM) will again award small grants as part of its Coastal Access Program, supporting local and regional projects that improve and enhance the general public's access to the coast. (The focus here is the general public, as opposed to access for local residents only, or deeded private access for named individuals; in addition, the focus of the program is on access to and along the coastline, as opposed to boat access to the water).

Principal categories of funding include, but are not limited to: 1) establishing new public coastal access opportunities; 2) developing local shoreline access plans; 3) reclaiming historically public ways to the sea; 4) enhancing or restoring existing access points or facilities; 5) developing educational initiatives around public coastal access.

Eligible Applicants: Massachusetts cities and towns, regional planning agencies, local, regional, and statewide nonprofit groups. Maximum grant award: \$3,000.

Deadline:

- SIX (6) copies of your application must be received by 5:00 p.m., November 15, 1996.
- Grant awards will be announced in December, 1996.
- A final report is due by September 30, 1997 with a narrative summary, before-and-after photographs, maps, plans, press clippings, samples of final products, receipts, etc. All reports will be compiled into a document summarizing the year's projects.

Project Selection Guidelines: *(The following is not a checklist of requirements, but a series of guidelines by which applications will be compared and judged. Except for the first requirement of focusing on general public access, a proposal does not need to conform with all of these guidelines.)*

- Project would support, enhance, improve, and/or promote the general public's access to the coast.
- Project would implement a portion of a local or regional plan.
- Project would leverage other resources.
- Project would function as a model for others.
- Project would support a Sea Path legal intertidal right-of-way.
- Project would enhance a state-designated "Area of Critical Environmental Concern."
- Proposal provides coherent, thoroughly researched, and realistic set of tasks, timetable, and budget.
- Proposal demonstrates need for and importance of project.
- Proposal shows organizational and/or community support.
- Preference will be given to communities and organizations not funded in the past.
- Preference will be given to communities in underserved regions of the coastline.

Types of Coastal Access Small Grant-Funded Projects

Examples of project include -- but are not limited to -- the following types:

- ▶ Developing a local shoreline access plan, inventorying existing public coastal access opportunities, identifying needs, and endorsing comprehensive recommendations for management, improvement, expansion, etc.
- ▶ Conducting campaigns to acquire property that would allow public coastal access.
- ▶ Training or involving citizens in managing public coastal access.
- ▶ Performing legal research necessary to provide foundation for a subsequent coastal access project.
- ▶ Enhancing recreational access to the coast through capital improvements (e.g., trails, signage, parking lots, stairs, boardwalks, ramps, etc.).
- ▶ Forming a new non-profit organization with a mission focused at least in part on public coastal access.
- ▶ Developing educational curricula around public coastal access issues.
- ▶ Educating the public about public coastal access, and/or the intersection of public coastal access, natural history, and/or cultural history of coastal areas.
- ▶ Protecting or restoring natural features associated with public coastal access through revegetation, protective measures, etc.

For more information, contact:

***Geordie Vining, Coastal Access Planner
DEM, 100 Cambridge Street, Room 1404
Boston, Massachusetts 02202***

phone: 617/727-3160 x528 fax: 617/727-2630 email: geordie.vining@state.ma.us

1997 APPLICATION PROCEDURE: DEM Coastal Access Small Grants Program

Proposals must include the following to be reviewed:

1. **Application Summary Page:** (see other side of page).
2. **Description:** Detailed, written, narrative description of the proposed project, its goals, and importance; identify specific tasks to be accomplished by grant-funded portion of project; address issues of handicapped accessibility, if appropriate; describe future plan for sustaining the effort.
Note: be sure to clearly and actively demonstrate that your project 1) will not adversely impact the area's ecology, and 2) that the beneficiaries include the general public -- for example, where would the general public park in order to access the area?
If the proposal is for a physical project, please also fully address issues such as whether the site has had similar structures previously (and, if so, their fate), and how the project might be affected by ice build-up, wave erosion, and/or dune migration, etc.
3. **Timeline:** Detailed timetable of grant-funded activities, plus that of larger project if appropriate.
4. **Visual Support:** 1) maps showing project locus and site; 2) photographs for site-specific projects (all pictures must be clearly labeled and should be bound with the proposal rather than loose); 3) understandable diagrams or plans, if project involves construction or facility improvement.
5. **Budget:** Detailed, itemized budget plan, including: a) full dollar amount requested; b) itemized list of grant-funded expenses (e.g. estimated project personnel time and cost per hour, costs of necessary materials, travel mileage @ 22 cents/mile, etc.); indirect costs can not be funded; c) although no matching funds are required, please describe the source and amount of matching funds and in-kind services; this can help demonstrate both community support and a more compelling project.
6. **Community Support:** Documentation of support for the project from the community and other relevant organizations. Examples include letters of support, press clippings, etc. If the project is referenced in a local plan, be sure to include a copy of the relevant section.
7. **"W-9 Form:"** We have a new fiscal system -- so, even if you have filled one out before, please fill out and include with your proposal one copy of both the enclosed "Request for Verification of Taxation Reporting Information W-9" form and "Commonwealth Terms and Conditions" form (simpler than they appear at first glance), along with the IRS Determination Letter for nonprofit groups. NOTE: We need to receive copies with the original signature of your organization's fiscal officer. Should your project be selected, this paperwork will streamline the process of getting the grant award into your hands.

*Please send 6 copies of your proposal by 11/15/96 to: Geordie Vining, Coastal Access Planner
DEM, 100 Cambridge Street, Room 1404, Boston, MA 02202 (tel: 617/727-3160 x528)*

APPLICATION SUMMARY PAGE:

1997 DEM Coastal Access Small Grants Program

- (Please type, and submit this form and all attachments)*

1997 Coastal Access Grants Program

Project Name: "COASTAL CONNECTIONS" CURRICULUM DEVELOPMENT
AND EDUCATOR TRAINING

Location: Rockport, Marblehead, Essex, Ipswich, Manchester, Beverly,
Gloucester

Grant: \$2,930

Organization: Brookwood School

Contact Person: Polly Chandler

Address: Box 1429
Manchester, MA 01944

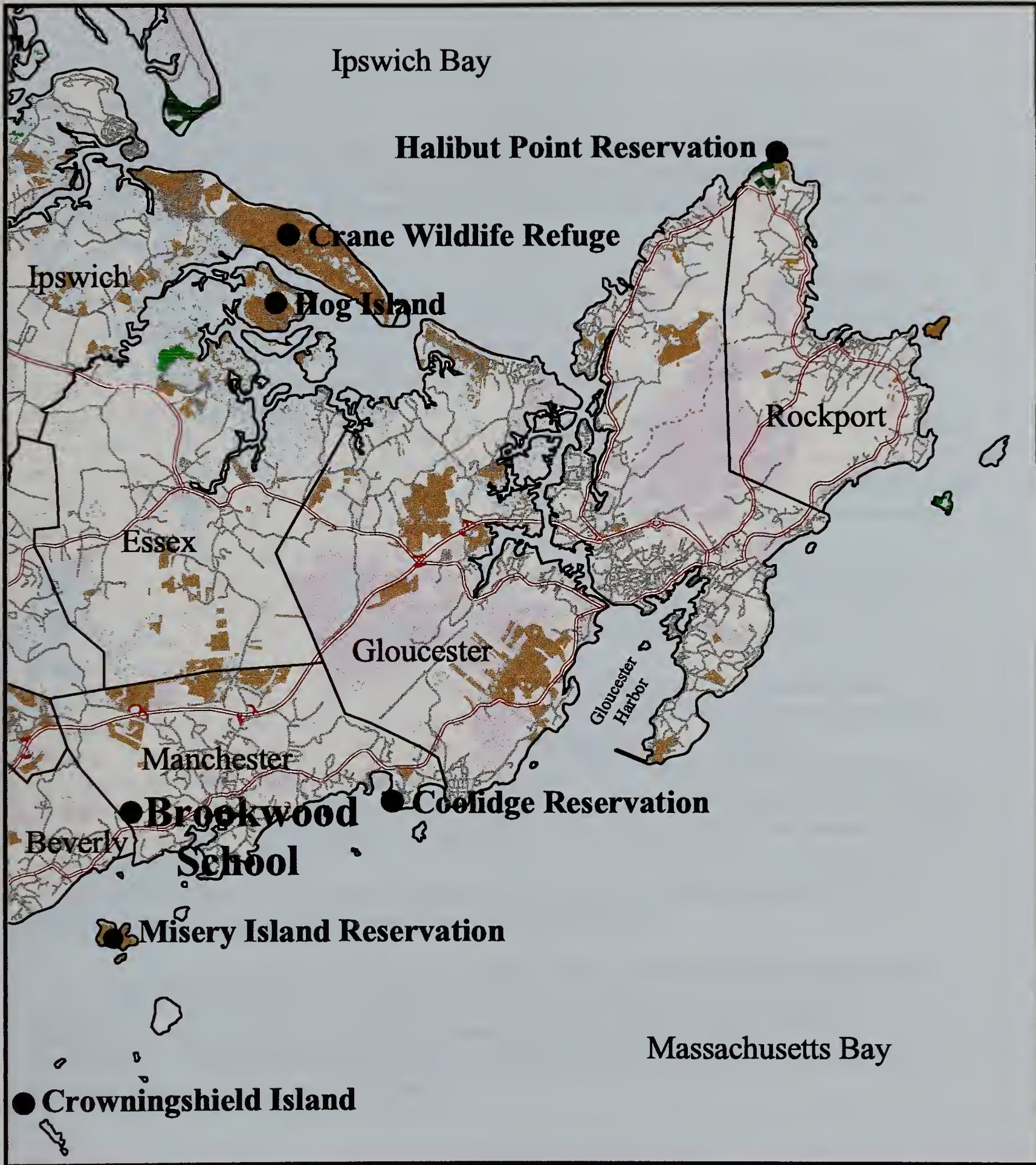
Telephone: (978) 526-4500

Summary:

The Brookwood School developed an innovative interdisciplinary curriculum that highlights the natural and cultural history of seven coastal properties owned by the Trustees of Reservations on the North Shore. The School also organized a "Coastal Connections" summer camp for school-children, and offered a certified professional development teacher training course to introduce teachers and camp counselors to the properties and help them use the curriculum. The grant supported staff time for curriculum development, transportation, equipment, and materials for the teacher/camp counselor training programs, and scholarship support for students.



Photograph by Polly Chandler



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Brookwood School

"Curriculum Development & Educator Training"

1997 DEM Coastal Access Grant

0 1 2 Miles



THE UNIVERSITY OF CHICAGO

LIBRARY

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Final Report

Coastal Connections was a huge success. Eighteen teachers were trained and thirty-eight children participated in the camp. Each day was an adventure for everyone and the majority of the participants, teachers and children, had never even been to the coastal properties.

If our goal was to increase access to the Trustees of Reservations coastal properties, then I would say we achieved our goal. However, we went way beyond that goal. Our project has a huge trickle down effect: students of the teachers and parents of the campers, all became more interested and involved in their coastline. Some of the other highlights were:

- A close to 200 page curriculum was written that introduced teachers to the cultural and natural history of each of the properties. Activities based on the human element and natural history were integrated into the curriculum. Eighteen teachers from grade three to grade nine took the curriculum home to review and analyze for incorporation into the 1997-98 school year.
- 38 campers explored the Trustees of Reservations properties and blended those preservation properties with conservation and high use coastal properties. They visited marine museums, went to Boston Harbor Islands and spent a day on a research vessel.
- Three educators were trained in taking children from the camp to the various properties. One of those educators has since then changed his career from Marine Biology to education and will be pursuing a teaching position this fall.
- Eighteen teachers spent five days exploring their local Trustees of Reservations properties. They listened to the experts on anything ranging from piper plover program to beach management to island management. They hiked, boated, wandered through seven unique properties.
- Eighteen teachers filled out an evaluation form and had nothing but praise for the coastal connections program, experience and curriculum.

As one parent said to the camp director..."This is the best camp session I've ever enrolled my child in".....and the camp directors words to me about the program....."Parents were absolutely elated."...and a teacher wrote in their evaluation....."Incredible planning led to a terrific week of exploring and learning. Thanks, it met all my goals and beyond."

Camp:

The camp was designed to be a two week camp session. Children met from 8:30am to 4:00pm, five days a week. They went to different sites each day(see the attached itinerary). We limited the session to 18-20 children so as to not overwhelm the instructor. The first session had 23 children, two on full scholarship from the grant. The second session had 16 children. The children ranged in age from 8-12.

I hired an educator/ marine biologist to run the program. She spent time with me learning about the sites and touring around to the various properties. She used

the curriculum guide to help her but basically ran the program on her own once we'd discussed the use of the curriculum and the goals of the program . She is planning on returning to Brookwood School Summer Camp in 1998. Brookwood has already made a commitment to her to run the program a second time.

Teacher Training:

The teacher training session was offered to all teachers in the north shore region. Advertisements were sent out to schools in Rockport, Gloucester, Manchester, Essex, Ipswich, Beverly, Salem and Marblehead. There were teachers from each of those towns in the program, along with two educators from the Boston Aquarium.

The workshop took place from June 23-26 and we met from 8-12:30 each day. We met at a different location each day. The itinerary is attached. Teachers were charged \$100 a piece. This was used to pay Polly Chandler, trainer and coordinator, for her time during the actual training session.

Reflection:

As the primary grant writer and implementer, I learned one major lesson..... Everything takes a lot longer than you anticipate if you are going to do a thorough job. The curriculum I wrote was extensive and took a tremendous amount of time. I had budgeted a rather small amount of money for myself in relation to the time I spent writing. The planning stages took longer also. There were many people to contact, advertisements to distribute, copies to be made, materials to purchase and a multitude of other small details that took up lots of time. See the copy of a journal that I kept for order of steps and extensive procedure involved in pulling this all together.

The time was well spent and I felt very positive about the success of the camp and teacher training session. The teachers and students were so enthusiastic that it all seemed worthwhile as I watched their faces glow in wonder of the beautiful places they were experiencing. Watching teachers unwind on a hay ride through Hog Island on the first day off at the end of the school year was truly amazing. Here was an exhausted group of people and they were all fired up to learn about new things they could do with their students. Their energy at tide pooling on Misery Island and Halibut was inspirational! The campers ran to meet their counselors each morning and left off in their van as if it was the first time they'd ever been to see the ocean. Their enthusiasm, curiosity and sense of wonder were enough to buoy all adults up for the day.

Another thing I learned was that even the best thought out finances and budget don't work out how you expect. We expected to provide transportation for teachers and campers. The school provided the vans and the teachers provided their own transportation as there were too many to fit in one van. The teachers enjoyed that flexibility and it allowed them to stay on and explore more if they wanted to. I also learned a big lesson in paying the curriculum writer and planner. We had to adjust my payment or I would have been earning about \$3.00 an hour. We also charged the teachers \$100 for the workshop to cover my time to coordinate and teach the teachers, that was not part of the initial grant idea. We ordered all the supplies we anticipated

and teachers are already signing things out for their school field trips. We could have ordered more supplies as there was a real interest in borrowing the materials. The scholarships were a great idea, I just wish we could have offered more. Finding kids was no problem at all.

If I was to improve this I would have gotten more people involved in the beginning so I could have delegated jobs. While the grant is written by Brookwood School, it basically came down to me writing the curriculum, planning the program, making the contacts and connections, organizing the trips and training, and conducting the workshop for the teachers. It was a huge job. I took on too much and really had an overload problem for awhile.

For the future I would like to see other schools implement the coastal connections program into their summer camp programs. I'd also like to see other teachers trained. However, while the last week in June was great for the teachers right after school got out, it was a monumental task to finish my own teaching school year and plan for a workshop. It was too much all at once. I would also consider doing a few Saturdays in the fall as day trips for teachers as an alternative to summer workshops.

The process with the DEM was very easy. The goals and expectations were very clear. There was terrific support on any questions. I had no trouble from the beginning to the end with the process and implementation of the grants program.

This is an extremely valuable program and the financial backing of the DEM made it possible for an incredible number of new "coastal connections".

Polly Chandler
August 13, 1997

Coastal Access Grants Program

PROJECT PROFILE #5

December, 1997

Department of Environmental Management

"Coastal Connections" Curriculum Development & Training: Brookwood School

The Brookwood School, an independent K-8 educational institution located in Manchester, received a 1997 Coastal Access Grant to develop an educational initiative focused on seven coastal properties owned by the Trustees of Reservations. Among the oldest and most established of land trusts, the Trustees own, protect, and manage 78 properties throughout Massachusetts (plus conservation restrictions on an additional 150 parcels). Seven of these reservations are located on the North Shore of Massachusetts, and include some of the most beautiful and compelling coastline in the state.

The grant-funded educational project was conceived, planned, and implemented by Polly Chandler, a teacher at the Brookwood School as well as a part-time seasonal employee with the Trustees. The project's general goal was to develop a flexible written curriculum, conduct a series of teacher training workshops, and run a two-week summer camp. The enterprise was a huge success, increasing public access to the Trustees' coastal properties and involving many

students, campers, teachers, and parents in the natural and cultural history of their coastline.

Central to the project is the 200-page curriculum developed by Chandler, which introduces teachers and students to the characteristics of each property and



suggests a variety of educational activities. The Coastal Connections curriculum aims to educate students through field trips to the Trustees' properties, combining tangible experience with more abstract considerations of land use, history, etc. The interdisciplinary curriculum integrates history, social studies, geology, and ecology. Issues of land ownership and public vs. private

rights are considered within an ecological and environmental context. The distinct variations among the seven reservations allow for a wide range of issues to be addressed.

Examples of the curriculum's suggested activities
(continued on other side)

What are "Project Profiles?"

The recipients of DEM's Coastal Access Small Grant Awards — plus anyone else interested in coastal access — are the primary audience for the Project Profiles series. The profiles are based on written information provided by grant recipients. The grants support research, inventory, and planning projects aimed at increasing public access to the shore in Massachusetts, plus small-scale physical improvements and educational projects. The grants are helping to build a network of municipalities, land trusts, neighborhood associations, schools, planning agencies, and others actively working towards these goals. For more information, call Geordie Vining, DEM Coastal Access Planner, at 617/727-3160 x528.

Coastal Access Project Profile

(continued from other side)

include: exploring salt marshes and beaches at Crane Wildlife Refuge in Ipswich; touring the nearby castle on Castle Hill; and boating expeditions to Misery Island and Hog Island to examine tide pools and island ecology. Throughout the program, questions of public use of and impact to the coastline are introduced and discussed. At Halibut Point and the Atlantic Path in Rockport, for example, participants compare visitation, use, and activity on the adjacent state park vs. the Trustees' reservation and discuss public vs. private access and use of the shoreline. A tour of the Beverly, Manchester, and Gloucester coastline provides a forum for the discussion of varying land uses. Eighteen teachers, from grades 3-9, ended up taking this curriculum home to review, analyze, and incorporate into the 1997-98 school year.

In addition to development of the curriculum, the Coastal Access grant supported a teacher training session offered to all teachers in the North Shore region. Mailings were sent to schools in Rockport, Gloucester, Manchester, Essex, Ipswich, Beverly, Salem, and Marblehead, and local social studies and science teachers organizations informed potential participants. Eighteen teachers responded, including educators from each of these towns plus two from the Boston Aquarium. Certified by the Department of Education as a professional development course, the teachers each paid \$100 for the five-day training. They met at a different reservation each day, learned about the curriculum, explored the area, and listened to experts on a myriad of issues, including beach management, island management, and piping plover management. Filling out evaluation forms at the end, they were full of praise for the Coastal Connections program, experience, and curriculum -- for example, "incredible planning led to a terrific week of exploring and learning...it met all my goals and beyond."

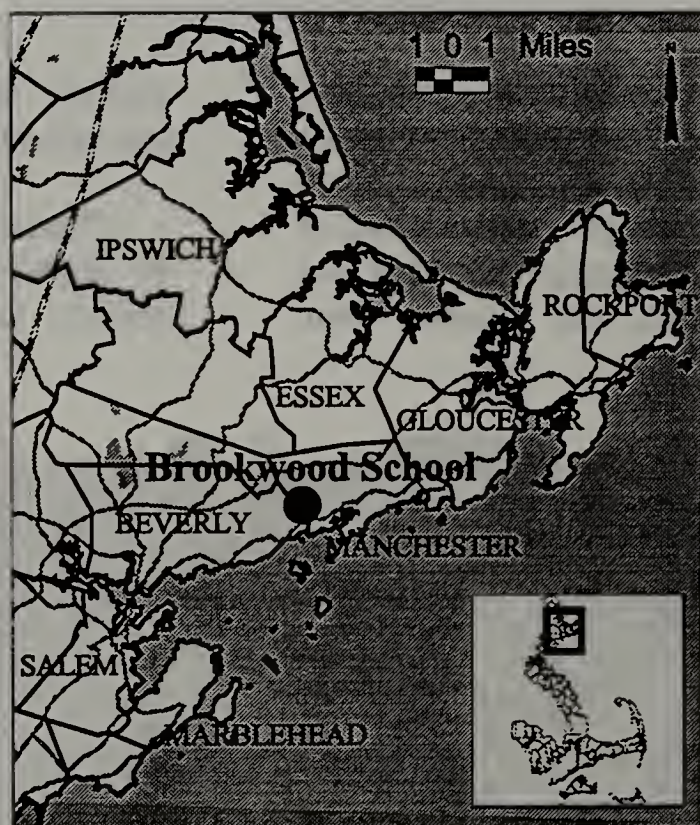
Finally, the Coastal Connections program included a summer camp that ran for two five-day sessions. Thirty-nine children participated in all, aged 8-12, two

of whom were on full scholarship from Coastal Access grant funds. Three educators were trained in taking children from the camp to the various properties. (One of these folks consequently decided to change his career from marine biology to education, and is pursuing a teaching position this fall.) The marine biologist educator hired to run the program is planning to return to run the Brookwood School Summer Camp in 1998, as the school has already made a commitment to run the program again. Campers ran to meet their counselors each morning, and left their vans as if it was the first time they had ever seen the ocean. Their enthusiasm, curiosity, and sense of wonder buoyed everyone around them. "Parents were absolutely elated," according to the camp directors. One parent declared that "this is the best camp session I've ever enrolled my child in."

Chandler notes that writing the curriculum and planning the project took a good deal longer than originally anticipated due to the multitude of details. Potential future variations include conducting the teacher trainings on several fall weekends, as opposed to a summer training week.

Overall, the project introduced complex issues in a marvelous manner to a new generation, renewing and replenishing people's concern for public access and coastal conservation. According to Polly Chandler, the grant-funded project "made it possible for an incredible number of new 'coastal connections.'" ♦

If you are interested in learning more about this project, call Polly Chandler at (508) 526-4500 or <pchandler@brookwood.edu>.



Coastal Connections
Teacher Training Workshop
June 23-27, 1997
8am -12:30pm

Monday, June 23 Hog Island, Ipswich

Introduction to Trustees of Reservations.

Boat Trip to Island.

Historical tour of island, clamming, salt marsh exploration.

Optional 12:30-2:00 An overview of Greenwood Farm, Ipswich and Stavros Reservation and their salt marshes.

Tuesday, June 24 Misery Islands and Crowningshield Island(if calm seas)

Boat Trip to Island. Meet boat at Tucks Point, Manchester.

Historical "Treasure Hunt" of Island

Seine and Tide pool

Exotic Plant Exploration

Marine Debris Survey

Optional Slide Show 12:30pm at Manchester Yacht Club or Brookwood School, site to be determined.

Wednesday, June 25 Halibut Point and Atlantic Path, Rockport

Tide Pooling

Historical Walking tour of quarry

Exploration of Atlantic Path and associated land use issues

Thursday, June 26 Crane Wildlife Refuge, Ipswich

Beach Ecology Management

Piping Plover Management

Tour Castle Hill

Landscape Tour

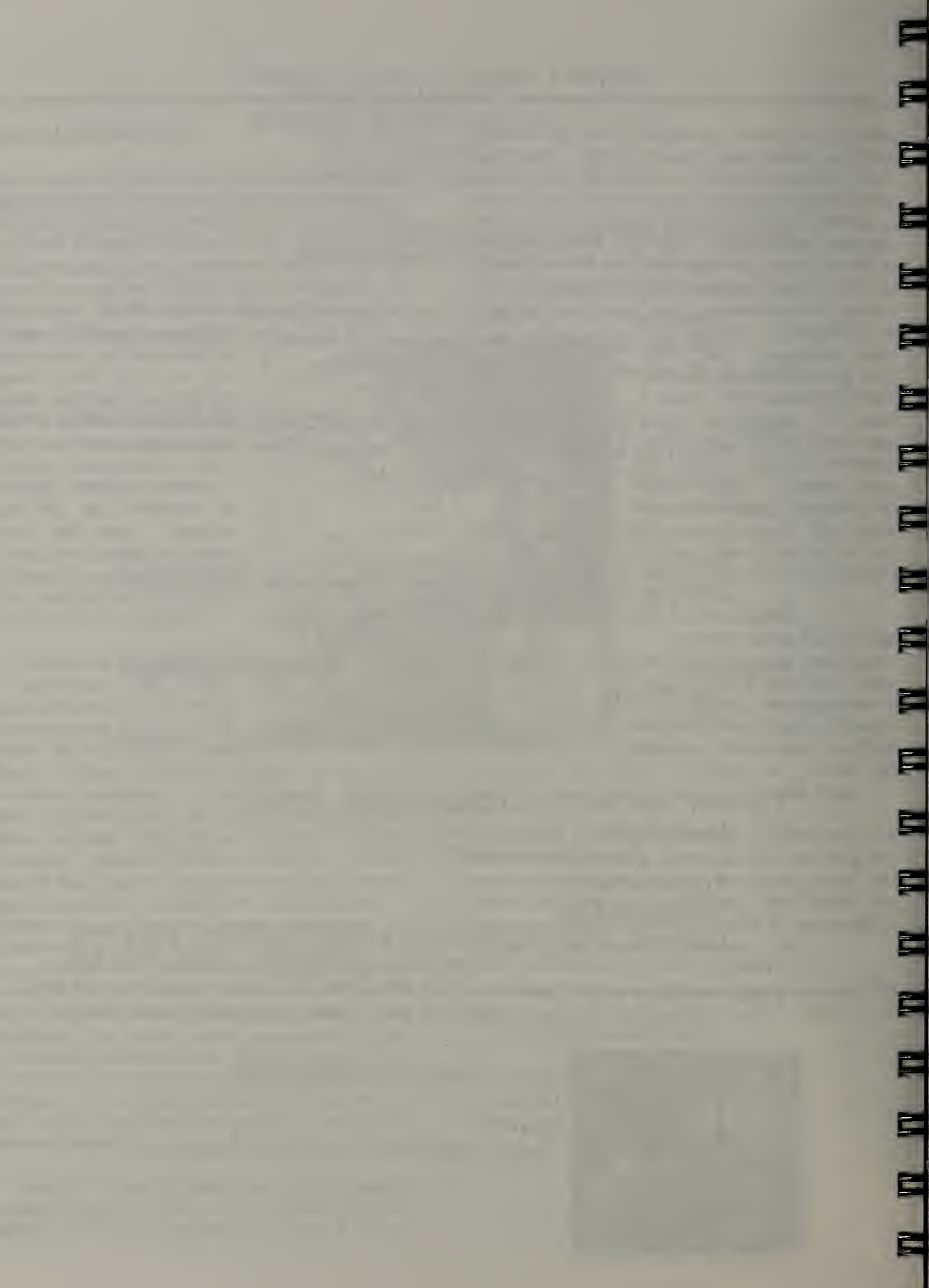
Optional: 1:00 -3:00 Kayak trip around Hog Island and Crane Wildlife Refuge with Essex River Basin Adventures. Extra Fee: \$25. Please register with Essex River at 508-2768-3722, just mention you are with the Teacher Training Session with the Trustees of Reservations.

Friday, June 27 Coolidge Reservation, Manchester

Water Quality Testing

Exploration of Property

Local Land Use Issues and Final Curriculum Integration.



Coastline Celebration Program

Schedule for Session I

Week 1

Date

Sites

Monday (6/16)

Halibut Point, Rockport

Tuesday (6/17)

Castle Hill, Ipswich

Wednesday (6/18)

Marine Science Center &
RV *Mysis*, Nahant

Thursday (6/19)

Gloucester Harbor
Cape Ann Historical Society

Friday (6/20)

Hog Island, Ipswich

Week 2

Date

Sites

Monday (6/16)

Coolidge Reservation, Manchester

Tuesday (6/17)

Misery Island, Salem Bay

Wednesday (6/18)

Essex Shipbuilding Museum
Stavros Reservation
Wingaersheek Beach

Thursday (6/19)

Crane's Beach & Wildlife Refuge, Ipswich

Friday (6/20)

Boston Harbor Islands

Coastline Celebration Program

Schedule for Session II

Week 1

Date

Sites

Monday (7/7)

Coolidge Reservation, Manchester

Tuesday (7/8)

Essex Shipbuilding Museum, Essex
Wingaersheek Beach, Ipswich

Wednesday (7/9)

Hog Island, Ipswich

Thursday (7/10)

Stavros Reservation, Essex
Crane's Beach and Wildlife Refuge

Friday (7/11)

Misery Island

Week 2

Monday (7/14)

Halibut Point, Rockport

Tuesday (7/15)

Trip on board the *RV Mysis*
Marine Science Center, Nahant

Wednesday (7/16)

Cape Ann Historical Society, Gloucester
Tour of Gloucester Harbor

Thursday (7/17/)

Castle Hill, Ipswich

Friday

Boston Harbor Islands

Evaluation:

Please fill out and mail back to me by July 10 at:

Polly Chandler

481 Western Ave.

Gloucester, MA 01930

*Thanks
PC*

I need to write an assessment of the week for the grant providers so please be honest.

Name *Pat Fleming*

Address *143 Cherry St*

Phone # *Wenham, MA 01984*

e-mail *(508) 468 7924*

School

Memorial School

Lincoln St.

Manchester, MA 01944

526-1908

1. What grade and subject(s) do you teach?

3 all subjects

2. What inspired you to take this workshop? What did you hope to get out of this experience?

The brochure/letter describing the course looked interesting

3. Did the week's activities meet your hopes and objectives? Please explain.

Yes, it made me more familiar w/ the sites.

4. How do you think you might integrate what you learned this week into your classroom?

I would like to tie some of the information into our Plant and Animal units.

5. What property do you think you will most likely return to again for
- personal recreation? Why?

Misery - it's a fun day trip for a family

- field experience with your students? Why?

Coolidge - It's close to my school, wide varieties of activities could be done there.

6. If you've had a chance to look over the curriculum binder.....What was your impression as far as usability and appropriateness to your needs?

I could use many of the ideas/activities in the binder. The background information on each site is good to know.

7. What did you like most about this workshop? *The variety of the sites. The activities each day were well planned & interesting.*

8. How might this workshop be improved? (Think about timing, length, locations, content, speakers, pace, etc..)

I liked the "pace" at Crane Beach/Castle Hill - some walking, a video, shade, time to sit down & decent bathrooms. I enjoyed Halibut Point but there was too much sun & heat. Offering afternoon optional activities was a great idea. I gave people more options to explore the North Shore.

9. Would you be interested in another type of workshop that highlights other Trustees of Reservations properties?

Yes, I like the 1/2 day schedule.

10. Would you be interested in attending a fall, 1 hour, after school computer workshop in learning how to use and share a database for aquatic monitoring?

No, it wouldn't fit my needs.

11. This grant was provided by DEM and Coastal Zone Management. Their goal is to increase awareness of coastal access issues in the state. How did this workshop meet this goal? How might you use your experiences to meet that goal for your students?

I think many students, families, & Manchester residents are ~~was~~ unaware of these properties & what they offer. As a teacher perhaps I can raise their awareness.

12. When you look back on this week, what image or experience will stand out in your mind the most?

The perfect weather!

Polly,

In your letter describing this course I was somewhat hesitant to enroll because I got the impression that it would be geared toward upper grade teachers. Your sites, activities, & lessons could easily be w/ 3rd graders. Perhaps you might want to rethink your letter because 3rd graders would benefit from this course. I learned a lot.

1997 Coastal Access Grants Program

Project Name: COASTAL EDUCATOR'S PASSPORT

Location: Essex, Gloucester, Ipswich, Newbury, Rowley

Grant: \$3,000

Organization: Essex County Greenbelt Association

Contact Person: Edward Becker

Address: 82 Eastern Avenue
Essex, MA 01929

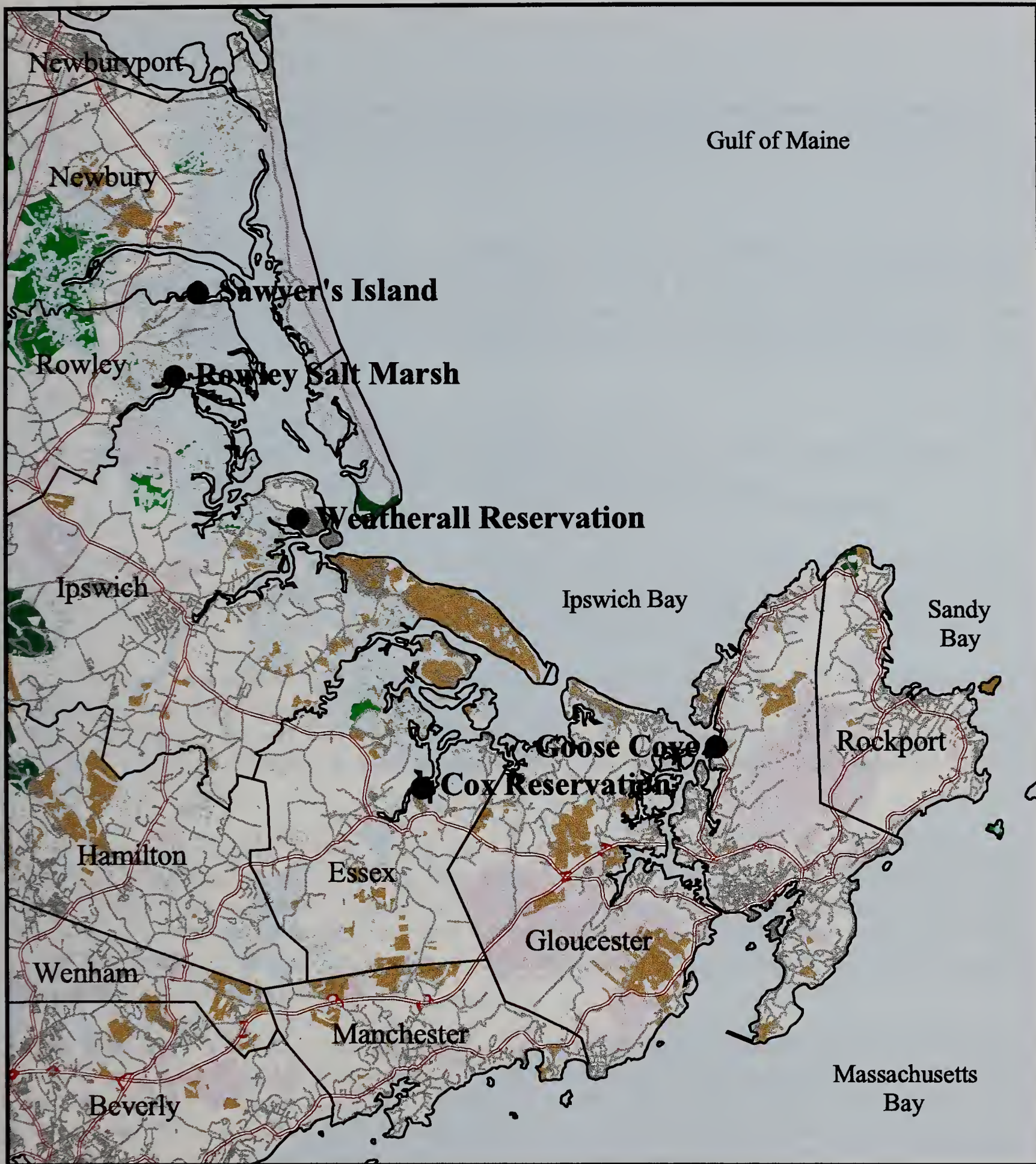
Telephone: (978) 768-7241

Summary:

The Essex County Greenbelt Association is expanding school and youth group visits to its coastal properties through the development of an "Educator's Passport" curriculum, conducting two certified professional development teacher workshops, and facilitating field trips. Designed for additions as the initiative evolves, the Passport is a loose-leaf binder providing information about Greenbelt properties, suggested study projects, logistics and special considerations, and support materials. As a pilot project, it is anticipated that the curriculum will be expanded to include the Greenbelt's upland properties. The grant supported staff time and a stipend to research and write the Passport, coordinate the workshops, assist schools with their site visits, and evaluate the project.



Photograph courtesy of Essex County Greenbelt Association

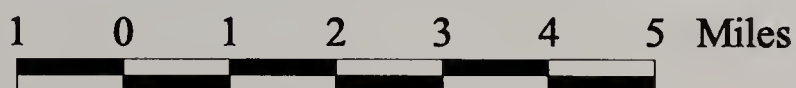


- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Essex County Greenbelt Association

"Inside Out:
An Educator's Passport"

1997 DEM Coastal Access Grant



Final report for the Department of Environmental Management's Coastal Access Small Grant Program award to the Essex County Greenbelt Association

Project Description

The Essex County Greenbelt Association (ECGA) was awarded \$3,000 by the Department of Environmental Management's Coastal Access Small Grant Program to increase access to ECGA's coastal properties by encouraging schools and youth group leaders to use these properties for student-based scientific research projects and project-based learning. The goals of the project were:

- Identify appropriate coastal properties.
- Identify possible interdisciplinary student-based science projects.
- Develop and offer teacher training workshops.
- Create an Educator's Passport to ECGA Coastal Properties.

Most of the money awarded from the Department of Environmental Management's Coastal Access Small Grant Program paid for research, writing, and production of the Educator's Passport. The rest of the money was to be spent on teacher training workshops.

In the proposal, the size of the Educator's Passport was 24 pages. It was to include a site description and map for each ECGA coastal property available for student visits in Newbury, Rowley, Ipswich, Essex, and Gloucester, and list of student projects. This Educator's Passport for ECGA Coastal Properties was to serve as a pilot project for the Education Committee.

Through meetings of the ECGA Education Committee, the Educator's Passport evolved to a 144 page document that includes a description, map, and activities for each of the eight sites, general site activities, in-class activities, and an appendices with a bibliography, notes on setting up a salt water aquarium, and additional resources. These changes were made to help the teachers and youth group leaders make the most of their site visit through preparatory and follow-up activities.

Twenty-two teachers and youth group leaders from Rowley, Ipswich, Essex, Gloucester, and Rockport participated in the teacher workshop series and received the curriculum guide. These teachers and youth group leaders were contacted through their schools and by direct mail from the Spar and Spindle Girl Scout Council. The teacher workshop series evaluations were sent out six weeks after they occurred. Suggestions from the evaluations were incorporated into the Educator's Passport and will be used in future teacher workshops.

Next Step

Through the 1997 - 1998 school year ECGA Education Committee will continue to work with teachers and youth group leaders from the coastal communities targeted in the Educator's Passport. For example, teachers and parents from the West Parish School in

Gloucester have contacted ECGA Education Committee for information on using coastal ECGA properties in Gloucester.

Also, members of the ECGA Education Committee have met with teachers from the Waring School in Beverly to discuss how student from the Waring School can use the ECGA Bolt Reservation near the school.

Timetable

In the original timetable, the Educator's Passport was to be completed by June 1997. However, with the change in format of the guide, as well as a summer vacation schedule and an April snow storm, delayed the completion of the Educator's Passport. The actual timetable was:

- January 1997 Begin research on Educator's Passport
- March 1997 Finish first draft of Educator's Passport
- April 30 Produce and distribute Teacher Workshop Brochure
- April 30 First Teacher Workshop at Cox Reservation
- May 5 Revamp Educator's Passport format
- May 5 Second Teacher Workshop at Batchelder's Landing in Rowley
- May 8 Third Teacher Workshop at Goose Cove in Gloucester
- June 20 Mail Teacher Workshop evaluations to participants
- July 1997 Finish second draft of Educator's Passport
- July 1997 Receive evaluations from Teacher Workshop participants
- September 1997 Complete Educator's Passport

Visual Documentation

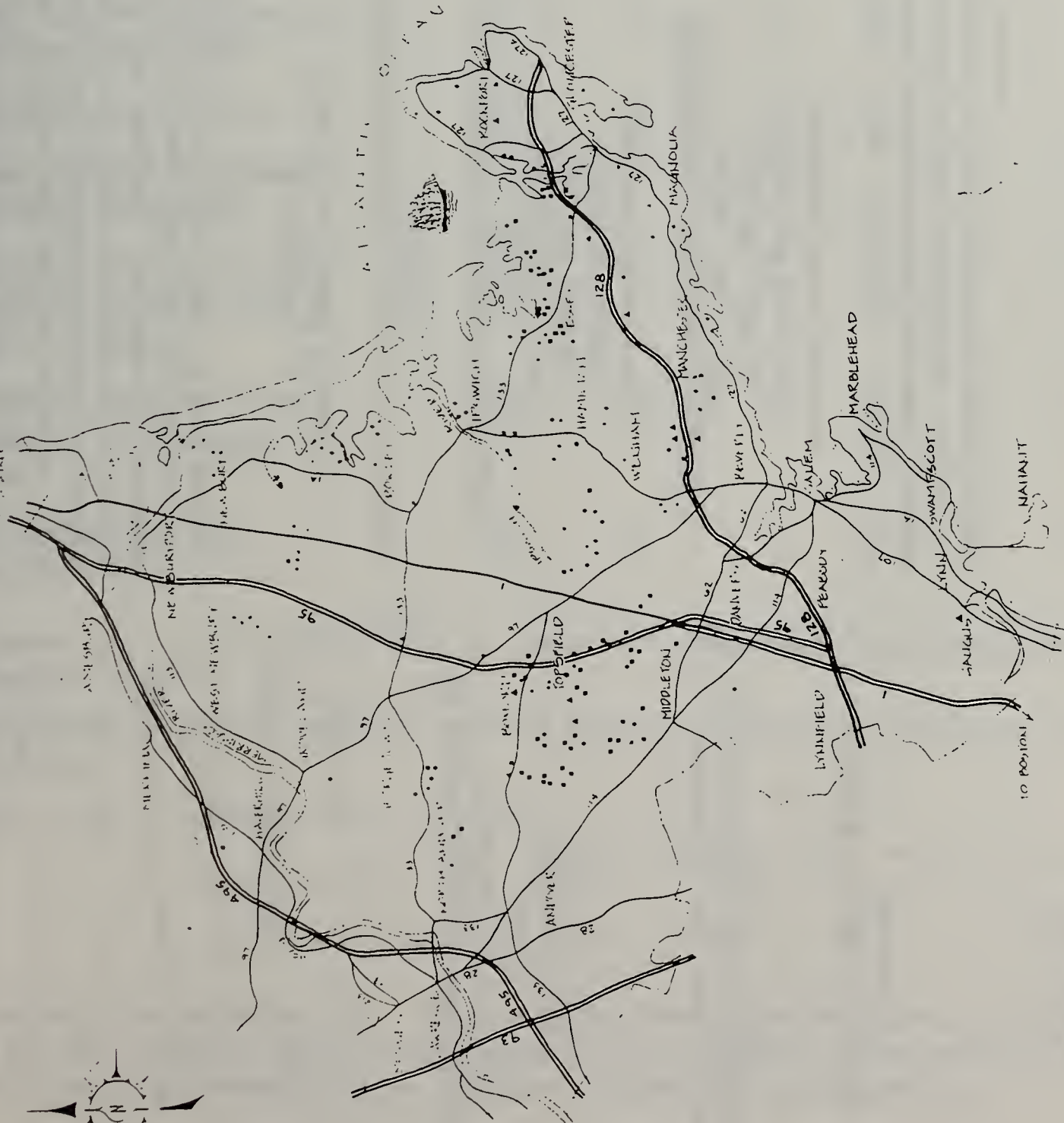
Please see the enclosed photographs of the Teacher Workshop at the Cox Reservation in Essex on April 30, 1997.

Sample Of End Products

Please see the enclosed copy of "Inside Out, An Educator's Passport to Essex County Greenbelt Association Coastal Properties," a brochure describing the teacher workshop series, and copies of the teacher workshop evaluations.

Comments

The Department of Environmental Management's Coastal Access Small Grant Program allowed the ECGA Education Committee to take a proactive approach to enhancing student visits to coastal ECGA properties. With the grant, ECGA Education Committee would have only worked with teachers and youth group leaders who approached ECGA looking for help in working with their students in the field.



- Legend**
- LAND OWNED
 - CONSERVATION EASEMENT
 - ▲ ASSISTED PROJECTS

Inside Out:
An Educator's
Passport to Essex
County Greenbelt
Association
Properties

Your community has valuable open space managed by the Essex County Greenbelt Association. Projects at these properties integrate across the curriculum and introduce students to field study techniques that can be use in any outdoor setting.

Join us for a series of educator workshops that will introduce teachers and youth group leaders to the Essex County Greenbelt Association and how Greenbelt properties can be used for project-based learning.

The Essex County Greenbelt Association (Greenbelt) is a nonprofit land trust dedicated to preserving open space throughout Essex County. Greenbelt manages over 7,300 acres of land. This preservation has helped landowners and communities safeguard ecosystems, foster agriculture, and protect scenic vistas and special natural features.

Greenbelt recently launched an Education Initiative to encourage schools and youth groups to increase visitorship to Greenbelt properties. Goals of the initiative are:

- enhancing environmental teaching skills through teacher workshops and curriculum development.
- improving student environmental education through field trips to local open spaces and science projects based on the Frameworks.
- fostering stewardship of Greenbelt properties.

Join us for a series of exciting teacher workshops at the Greenbelt properties in your town. Participants will have the opportunity to:

- ◆ Explore beautiful and ecologically significant coastal habitats.
- ◆ Discover ways of integrating coastal wetland field studies to other curriculum areas.
- ◆ Make and use simple field equipment.
- ◆ Design science and math framework projects based on field study units.
- ◆ Receive a free copy of the "Inside Out: An Educator's Passport to Coastal Greenbelt Properties."

Workshops and curriculum are for teachers and youth group leaders grades K-12. They are free to participants, but space is limited. Six PDPs will be awarded.

Workshop No. 1
Introduction to an Educator's Passport

Wednesday, April 2, 1997
3:00 PM - 6:00 PM
Cox Reservation
Route 133, Essex

This workshop will introduce educators to the Essex County Greenbelt Association and teachers who have developed project based activities at Greenbelt properties. Educators will participate in inquiry based activities, discuss field trip logistics, and receive a copy of an Educator's Passport.

Workshop No. 2
Visit To A Coastal Property

Educators will participate in one of the following workshops.

For Educators in Ipswich, Newbury, and Rowley
Monday, May 5, 1997
3:00 PM - 6:00 PM
Batchelder's Landing
Railroad Avenue, Rowley

For Educators in Gloucester and Rockport
Thursday, May 8, 1997
3:00 PM - 6:00 PM
Goose Cove Reservation
Washington Street, Gloucester

During these workshops, educators will familiarize themselves with the coastal Greenbelt properties in their communities, participate in hands-on activities, and review special projects for each site.

"*Inside Out*: An Educator's Passport to Greenbelt Coastal Properties" and the teacher workshop series are funded through a grant from the Department of Environmental Management Coastal Access Small Grant Program.

**Teacher Workshop
Registration Form**

Name _____

Address _____

School Phone _____

Home Phone _____

School or Organization _____

Grade Level _____

By March 21, please mail this form to:
ECGA Teacher's Workshop
ECGA
82 Eastern Avenue
Essex, MA 01929

A confirmation and map to the Cox Reservation will be sent to each participant.

Call 508-768-7241 if you have any questions.



COASTAL ACCESS WORKSHOP EVALUATION

Workshop Location: (circle)
Date: (Circle)

Cox Reservation
April 30, 1997

Batchelder Landing
May 5, 1997

Goose Cove
May 8, 1997

For each question, circle the number which reflects your response:

	<u>Strongly Agree</u>			<u>Strongly Disagree</u>		
1. The workshop was well organized	5	(4)	3	2	1	NA
2. The information presented will be useful in my work.	5	(4)	3	2	1	NA
3. The format of the activities was appropriate for the information being communicated.	(5)	4	3	2	1	NA
4. Adequate time was allocated for discussion and questions.	(5)	4	3	2	1	NA
5. The handouts were useful.	(5)	4	3	2	1	NA
6. The topics covered stimulated my interest in the subject.	(5)	4	3	2	1	NA
7. The workshop has encouraged me to use the property with my students/scouts.	(5)	4	3	2	1	NA
8. The activities presented were appropriate to my teaching situation.	(5)	4	3	2	1	NA
9. I would recommend this workshop to others.	(5)	4	3	2	1	NA

10. I feel (choose one) *fully*, somewhat*, or *not at all** prepared to begin using these sites with my students/scouts.

* Please describe what you would have needed from the workshop to enable you to feel fully prepared.

The Life Surveys were great - it would be good to know where we could get/borrow materials to carry out some of those studies with a class.

11. Please comment on the other side: What was the most valuable aspect of the workshop? What was the least valuable aspect? What aspects of the workshop were particularly effective? What aspects need improvements? How were the activities you participated in?

Most valuable - doing the activities ourselves
(counting plants etc...)

Overall - excellent workshop - I learned a lot.

1997 Coastal Access Grants Program

Project Name: FERRY SERVICE TO MISERY ISLAND

Location: Manchester

Grant: \$3,000

Organization: Trustees of Reservations, Cape Ann Management Unit

Contact Person: Greg Chanis

Address: 481 Western Avenue
Gloucester, MA 01930

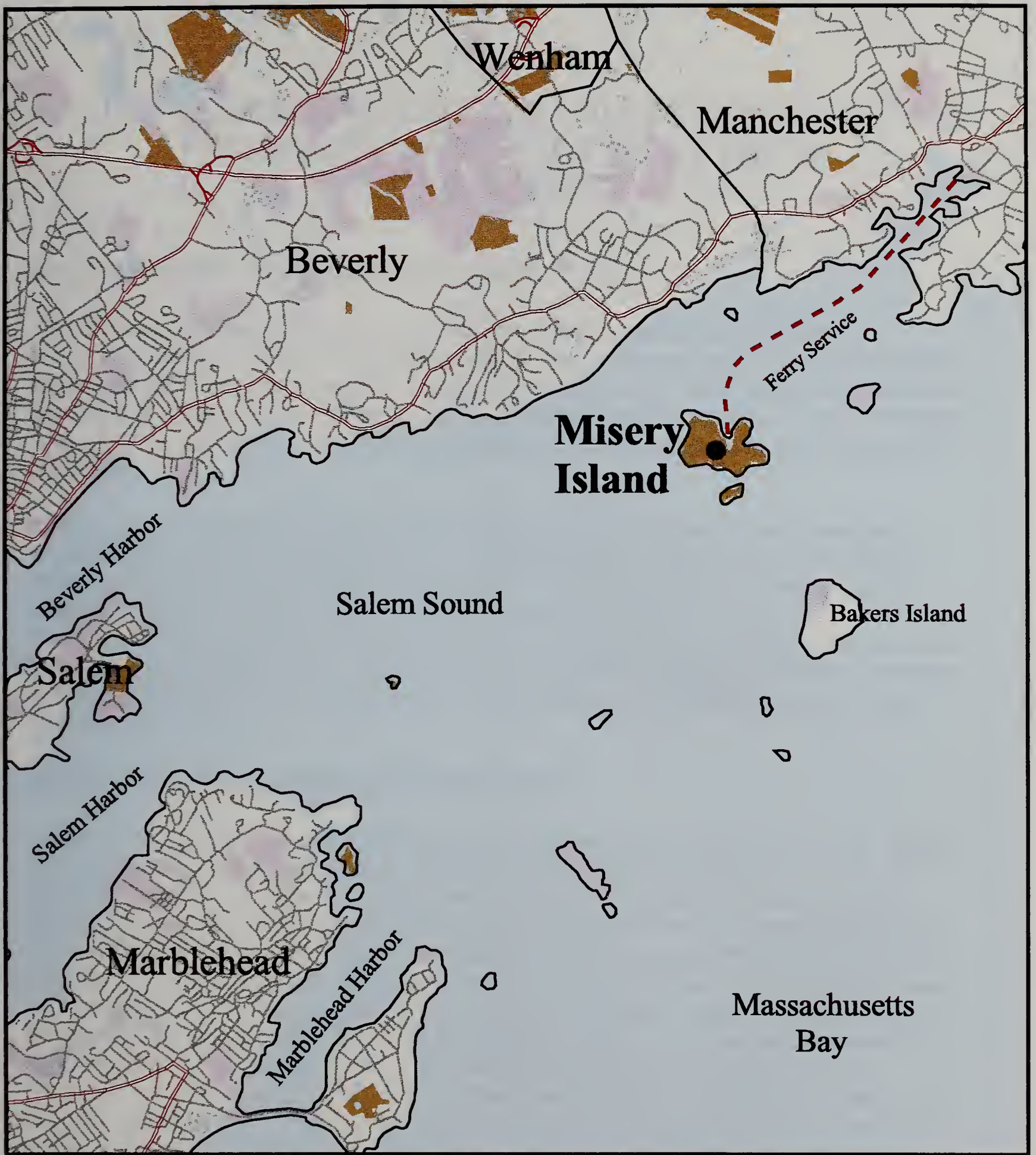
Telephone: (978) 281-0041

Summary:

The Trustees of Reservations (TTOR) re-programmed a 1996 Coastal Access grant to establish a ferry service to TTOR's Misery Islands Reservation during the summer of 1997. With sweeping views from Gloucester to Marblehead, diverse topographical and vegetative features, and a colorful history, the 83.5 acre Great Misery Island and adjacent 5.5 acre Little Misery Island make up one of the Trustees' most dramatic properties. It has also been one of the hardest to get to by the public, as previously one had to have a private boat to access the islands. The grant supported the chartering of a boat to offer passenger service from Manchester Harbor throughout the summer. It is anticipated that this successful demonstration will lead to permanent ferry service to this beautiful coastal site.



Photograph by John Lopez



Trustees of Reservations

"Passenger Service to Misery Island"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



Coastal Access Small I Grant Program Passenger Service to The Misery Islands Project Report

Organizational purposes and goals

The Trustees of Reservations is a private, non profit organization dedicated to preserving properties of exceptional scenic, historic and ecological value throughout Massachusetts for the enjoyment of the public. Founded in 1891, it is the worlds oldest land trust and inspired the formation of the National Trust in England. The Trustees of Reservations has been a model for over 800 land trusts across the United States and around the world

Today, The Trustees has over 16,000 member families and owns and manages 77 properties across the Commonwealth of Massachusetts totaling more than 20,000 acres, all open for the enjoyment of the public. These include woodlands, rolling meadows, historic houses, formal gardens, barrier beaches and islands. The Trustees hold over 140 conservation restrictions protecting an additional 10,000 acres. Over the past ten years, The Trustees has also provided strategic assistance resulting in the conservation by other land trusts, municipalities, and state agencies of more than 5,000 acres

About The Misery Islands Reservation

Located at the easterly end of Salem Bay, the reservation is 89 acres in size. Great Misery Island is comprised of 84 acres and Little Misery is 5 acres. Since the 1600's, the Misery Islands have a long and well documented history of fishing, farming and lumbering, followed by the establishment of a summer colony on Great Misery around 1900. Stone foundations and walls are all that is left from from this era, adding an element of mystery when exploring the island. The property was acquired by the Trustees in 1935 when a group of mainland residents, disturbed by a proposal to build an oil tank 'farm' on Great Misery Island, formed an organization which purchased all but 12 acres of the island and subsequently gave it to the Trustees. In the ensuing years, The Trustees has acquired, by gift or purchase, all but one small parcel. The Trustees began intensive management of the island in 1969. Today a trail system, which meanders throughout Great Misery, provides access to numerous high points and vistas where visitors can enjoy spectacular views of the surrounding islands and coastline from Gloucester to Marblehead. There are also numerous rolling fields and shade trees which provide ideal spots for picnics. Misery Island is truly one of the Trustees most inspiring properties. Unfortunately, it has also been one of the most difficult to get to.

Project description

The goal of the project was to enhance access to The Misery Island Reservation and to assess the demand for this service. Before this summer, the only people able to enjoy the Misery Islands were those with their own boat. The initial proposal involved modifying a vessel that The Trustees of Reservations already owned, so that it could be certified to carry passengers. After learning that our vessel was not suitable for that purpose, we chose to charter a certified vessel to provide limited passenger service to the islands. Every Monday and Tuesday this summer, for a total of 26 days, we offered hourly passenger service to Great Misery Island from The Manchester town docks at Masconomo Park. These docks are directly across the street from the MBTA commuter rail station. People could leave Boston and be on Great Misery Island ninety minutes later, even less if you were traveling from Lynn, Beverly, Gloucester, Salem and numerous other communities. For those driving, we arranged to have a limited amount of parking available in a privately owned facility near the dock. Because of the size of the chartered boat, we were limited to bringing 40 people a day to the island. To help offset the cost of the service, a fee was charged. Members of TTOR paid \$8 for adults and \$3 for kids. Non members paid \$10 for adults and \$5 for kids.

Results and future plans

The response to the availability of this service was encouraging. With help from some incredible weather, by the end of the summer, we had introduced over 700 visitors to Great Misery Island, an average of around 30 people per day. All of these visitors were offered a one hour tour of the island and then were able to explore the island on their own for several more hours. Virtually all of the visitors were enthusiastic and many took the trip more than once during the summer, often bringing family and friends the second time. It is clear that if we continue to offer this service in the future, people will take advantage of it.

In addition to demonstrating that there is a demand for access to Misery Island, this collaborative effort has pointed out the need to make several improvements to the island, most notably, the provision for some type of bathroom facility. We are presently looking at several different composting systems and our current plans call for the installation of one of these in the Spring of 1998. We are also looking into the possibility of installing a seasonal dock system and acquiring our own vessel to provide ongoing passenger service in the future. We feel this will be the most effective and economical way to provide increased access to The Misery Islands. By owning and operating our own vessel, we will retain control of the numbers of people visiting the island, allowing us to ensure that all visitors get a quality experience and that potential impacts on the island are minimized.

Overall TTOR feels this was an enormously successful venture and we are extremely grateful for the opportunity to participate in the Coastal Access Grant Program. We look forward to working with you on more projects in the future.

1997 Coastal Access Grants Program

Project Name: ESTABLISHMENT OF PUBLIC ACCESS WAYS

Location: Danvers

Grant: \$3,000

Organizations: Town of Danvers, Department of Planning and Human Services

Contact Person: Susan Madison

Address: Danvers Town Hall, One Sylvan Street
Danvers, MA 01923

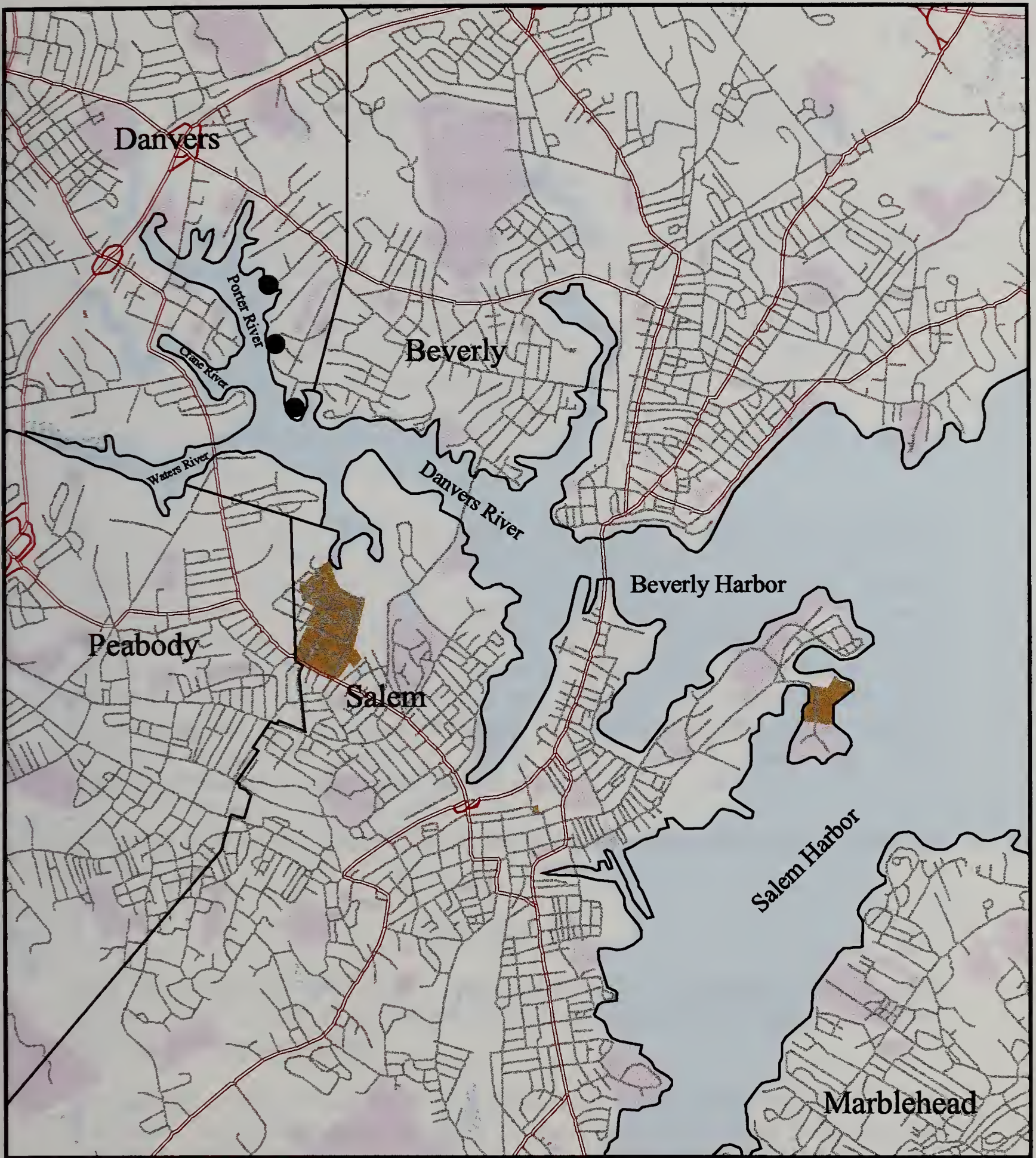
Telephone: (978) 777-0001

Summary:

The Town of Danvers engaged Hancock Environmental Consultants to conduct formal surveys for three public access sites on the Danvers River estuary: Eden Glen Avenue, Doty Avenue, and Riverview Avenue. Public hearings were held with neighbors and abutters, and creative compromises were reached regarding implementation and management. Signage, seating areas, and other amenities are planned to be installed as appropriate, plus a brochure describing the sites. The project was a continuation of the Town's multi-year effort to promote public access points along the river, supported in two previous years by Coastal Access Grants, which has resulted in seven new public coastal access points being added to the Town's two original public sites. The 1997 grant partially supported the cost of the surveys.



Photograph by John Lopez



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Town of Danvers

"Establishment of Public Access Ways"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



1997 DEM Coastal Access Small Grants Program

Final Report

On November 12, 1996 the Town of Danvers submitted a proposal for the 1997 Coastal Access Small Grants Program. DEM had previously awarded the Town with two \$3,000 grants (in 1995 and 1996). These funds, along with in-kind services and volunteer time, brought us to a point where the coastal access has been formally established at Hussey Ave., Mead Street, and Bradstreet Avenue. Previous grants also provided for title research that was essential to establishing the Town's right to develop and encourage usage of these sites. Because of the previous research the Town was able to present documentation to the abutters of these sites that clearly established the Town's right to improve these coastal access areas

As with previous grants, the Town engaged the services of John Dick of Hancock Environmental Consultants (HEC) to assist with continued research and compilation of formal surveys for the sites. HEC is located in Danvers and John has extensive knowledge of coastal issues, particularly those dealing with property rights, title research and the waters of the Commonwealth. John provided plans for three (3) additional sites that had been identified through earlier grants. These sites include coastal access opportunities at Eden Glen Ave., Doty Ave., and Riverview Ave. Included in this report are copies of the three (3) surveyed sights. With the formalization of the property boundaries through the surveys we will be able to provide signage and, where appropriate, benches at these coastal viewing areas.

In order to offer a more detailed description of the newly established sites, I offer the following:

Eden Glen Ave.

Eden Glen Avenue is limited as a viable access only with respect to the potential intensity of use. It is one of the few practicable sites for launching of boats from trailers, but provides no parking amenity.

It is certainly possible to launch a boat and drive away to some nearby place to park. In practice, however, the neighbors would be burdened by the use. At the public hearings that were held relative to these sites, it was found that the neighbors, through cooperative, were fearful of the possibility of more than limited boat launching activity. Because of the concerns that were voiced, it was decided that although signage and a sitting area would be provided, the opportunity for board launching would not be offered at the present time. This may be something that we revisit in the future as we are able to observe the impacts of the increased activity at the site resulting from the signage and bench area.

Riverview Ave.

This access area is both wide and gently sloped, providing both an attractive and practical means of access. While the way is probably privately owned, a public interest through an easement is considerably easier to demonstrate in a fifty foot street than in a narrow way between two houses.

At the public hearings for this project we explored the possibility of not pursuing the existing coastal access easement in exchange for establishing access at the end of the existing public way. It was noted, and recognized, that this area of town is densely populated and that the establishment of a narrow public access to the coast between two dwellings would be unduly intrusive and may expose the town to increased liability. However the abutters were amenable to the establishment of coastal access at the end of the public way. I believe that it is appropriate to note at this point in the report, that flexibility in negotiating with the neighbors of these coastal access points is pivotal in the success of any program. Although, legal documentation can clearly establish the Town's right to develop an access site, if the neighbors become confrontational because of their fears and concerns, then the program is more likely to fail. Through negotiation some creative compromises can be reached. This I believe was one of them.

Doty Ave.

This coastal access site is also located at the end of a public way. Although the site is not appropriate for boat launching, it is becoming a popular fishing spot for many area residents. At the public hearing the neighbors voice few concerns about increased public access. In fact, those of us working on this coastal access project were unaware of the extent of the popularity of the site at the present time. Neighbors informed us that not only Danvers residents but also fisherman from Beverly were utilizing this site on a regular basis. Without their input, we would have probably been unaware of the uniqueness of this site. With the abutter's input, we have decided to provide some amenities, such as pole holders, and sitting areas, as well as signage at this site.

However the neighbors did express concern about the high voltage electric cable that runs across the river at this site. It is their belief that this poses a danger to the people fishing at the site. As a result of their input we are presently meeting with the Town's Waterfront Manager and Electric Utility Manager in order to find increased ways the town can ensure that the public is aware of the location of this cable. Possible solutions that are being considered is highly visible signage in the river that will aid boaters as well people enjoying the public access at the end of Doty Ave.

Also included in the activities during this grant period were continuations of projects starting during previous grant periods. Through the Town's Open Space Program, a bench was constructed and installed at the Mead Street coastal access site. In addition, a split rail fence was constructed and installed at the Bradstreet coastal access site. This

fence serves to identify the boundaries of the site. Neighbors of this coastal access had expressed concern that unless the area was clearly defined, their property rights could be compromised through inadvertent trespassing by visitors to the site.

As has been stated before, working closely with the abutters to the sites helps to ensure the success of opening the coast to public access. To this end, we had several public hearings and were always open to having private meetings with those concerned about the impacts of public access. All public hearings were advertised and abutters notified. Issues raised at the public hearings were researched and additional information was provided to those concerned.

Though the assistance provided by the Department of Environmental Management, we now have increased coastal access by seven (7) sites. The Town realizes that without the support of the grants from the Department of Environmental Management we would not have been able to establish these sites in such an expeditious fashion. Funding for the title research and surveyed plans would have been impossible under the Town's current fiscal constraints. However, by receiving this funding the Town could utilize their existing staff and the Open Space Intern Program to complete the implementation of this very important program. It should be noted that the Town's River Committee had been trying to implement an expanded coastal access program for ten (10) years without success. With the receipt of the grant funding we have now increased our coastal access by seven (7) sites. Before this program our coastal access was limited to Popes Landing and the Town's marina.

We plan in the future to create a brochure that can be distributed to Danvers residents in order to further inform them of the coastal access opportunities that exist in Danvers. Several years ago we created a similar brochure that described the open space parcels in town that had been improved by our open space program with the installation of trails, picnic areas and bird viewing sites. This brochure was delivered to each resident in town through a cooperative project with the boy scouts. We plan to use a similar process to distribute our coastal access information.

1997 Coastal Access Grants Program

Project Name: SHORELINE ACCESS PLAN: RE-ESTABLISHMENT OF PUBLIC ACCESS WAYS

Location: Winthrop

Grant: \$3,000

Organization: Town of Winthrop, Community Development Office

Contact Person: Kathleen Guillory

Address: 1 Metcalf Square
Winthrop, MA 02152

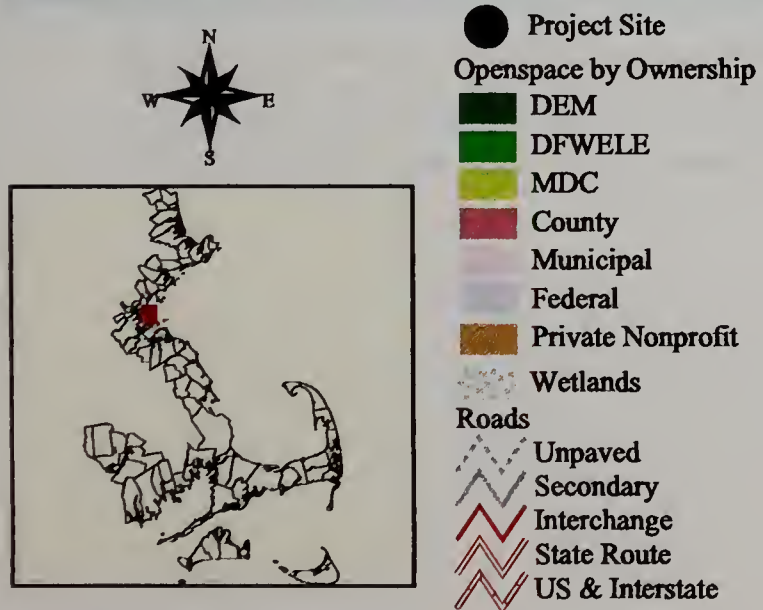
Telephone: (617) 846-1852

Summary:

The Town of Winthrop engaged the services of Naecker Ammondson Architects and their consultants Carol R. Johnson Landscape Architects, Inc. and A. M. Fogarty & Associates to establish a plan that identified the Town's public access ways to the shoreline, inventoried their condition, detailed their needs (e.g, paths, plantings, stairways, walls), and estimated construction costs. The condition and use of the public ways had deteriorated due to the pollution of Boston Harbor, but improved water quality is renewing interest in these resources. The grant supported the services of the consultant to conduct the survey, produce architectural drawings, and make recommendations.



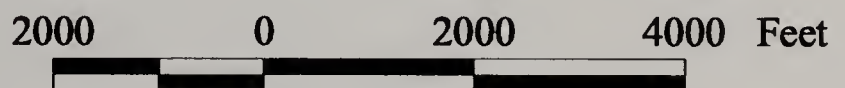
Photograph by John Lopez



Town of Winthrop

"Re-establishment of Public Access Ways"

1997 DEM Coastal Access Grant



25 August 1997

Ms. Virginia L. Wilder
Director
Community Development Office
Town Hall One Metcalf Square
Winthrop, MA 02152

Re: Facilities Review and Feasibility Study
Re-establishment of Public Access Ways
Winthrop, MA

Dear Ms. Wilder:

Naecker Ammondson Architects and our consultants, Carol R. Johnson Landscape Architects, Inc. and A. M. Fogarty & Associates, Inc. have enclosed a copy of our final report for the above-mentioned project. The report consists of this cover letter, a summary of the properties considered and architectural drawings and preliminary statements of probable construction cost for each site.

Project Overview

The Town of Winthrop, a peninsula located on the northeastern edge of Boston Harbor, is connected to the mainland at Revere and East Boston via the loop of State Highway Route 145. Town residents have traditionally enjoyed the numerous public access points located along the perimeter of town for activities such as fishing, walking, wading and sunbathing. Over the years as the water quality of Boston Harbor deteriorated, so did the condition and use of the Winthrop Public Access Ways. With today's improved water quality, public interest and use of the Winthrop shoreline has begun to increase. The Town of Winthrop has identified seventeen public access locations to be reviewed and has secured funding through the Department of Environmental Management Coastal Access Small Grants Program in order to inventory and assess these locations of public access.

We began our facilities review by initial meetings with the Community Development Office and with a review of Town of Winthrop Assessor's maps. Each site was identified and given a site number. We have reviewed the existing conditions of each public access way and prepared preliminary drawings for each site which show existing conditions, including major site elements and buildings. In addition, we have made design proposals for each site in order to provide new site amenities and repair or replace deteriorating existing site features. We have also provided preliminary budget statements of probable construction cost for each site. Following a preliminary presentation of findings to the Community Development Office and the Director of Public Works, additional comments and suggestions have been incorporated in to our final report.

Ms. Virginia L. Wilder
25 August 1997

Page 2

Design Considerations

The sites have been prioritized for improvements based upon public access, natural site features, location and overall desirability for development. Two of the sites were eliminated from further consideration, due to lack of public access. The two major design considerations used were better public amenities such as lighting, seating areas and landscaping, and emergency access to the shoreline itself as well as access to the water's edge for fishing, swimming and walking.

Wherever public amenities such as shade structures, seating areas and platforms are provided, we have included dedicated barrier-free parking, curb cuts and ramps to the proposed amenities. Where site conditions allow, we have included new ramp structures to allow barrier-free access to the shore itself. The remote nature of the sites does not allow providing a connecting "boardwalk" along the water's edge as other communities have attempted to provide in order to allow barrier-free access to the shoreline. At several site locations, the natural site features (i.e.: excessive grade change, restricted width of adjoining street or minimal dimensions of the public access way itself) appear to meet the description of "*impracticable / impracticability*" as defined in 521 CMR 5.44 ("*a*) Compliance with 521 CMR would be technologically unfeasible, or *b*) compliance with 521 CMR would result in excessive and unreasonable costs without any substantial benefit to persons with disabilities"). These specific sites would likely require a variance from the Massachusetts Architectural Access Board and are so noted in the attached "List of Properties". We have conducted preliminary discussions with MAAB regarding this project and the requirements for compliance with 521 CMR; however, the scope of this study does not include a full review with authorities. Should funding be obtained for future development, we would recommend meeting with MAAB to review the entire project. Where BF accessibility has been deemed to be impracticable, we have either repaired or replace existing stairs to the shoreline in order to provide emergency access at all sites. We have made every attempt to ensure that all amenities are fully accessible to all and will be in compliance with the requirements of the Americans with Disabilities Act (ADA). Proposed structures are to be designed in accordance with applicable building code requirements.

It is important to note that the design options shown are to be considered possible suggestions for a design intervention for a particular site and are to be used to prepare a preliminary project budget. All sites and possible design directions for each site will be considered in much greater detail should the Town decide to proceed with development of any site or sites.

Proposed Materials

Our preliminary design proposals use a pallet of durable materials, designed to endure both the harsh conditions of the waterfront locations and the unavoidable exposure to both vandalism and deferred maintenance. Wherever possible, we have avoided costly and ineffectual painted surface and have instead proposed more costly but more durable coated surfaces. We have also recommended ample site lighting to discourage vandalism. Site lighting will be provided in a secure and yet subtle manner so as not to disturb the neighbors. To assist in maintenance, we have recommended vandal-proof hose bibs for each site to be used for washing down the sites on a regular basis.

Ms. Virginia L. Wilder
25 August 1997

Page 3

Permitting and Public Approvals

Due to the nature of the Public Access Ways and their locations along the shore line, the permitting process will be complex and lengthy. Fortunately, none of the design proposals extend beyond the Mean High Water Level, which should simplify the approvals process. It should be noted that the scope of services provided for this feasibility study did not include providing site surveys. Full property and topographic surveys must be performed for each proposed site prior to any future development. It is recommended that public hearings are held to properly inform abutters and the entire community of any proposed changes to these sites, many of which have had limited public use for years. At several sites, neighbors were observed to have taken use of public land and will require legal notice from town counsel regarding any intent to restore public access.

Permits and or review will likely be required from the following agencies: the Winthrop Conservation Commission, the United States Army Corps of Engineers, Massachusetts Coastal Zone Management, the Massachusetts Department of Environmental Protection, as well as the town building permit and review by planning and zoning boards. As noted above, variances will likely be required from the Massachusetts Architectural Access Board for several sites where BF accessibility is deemed to be "*impracticable*." It is likely that Massachusetts Environmental Protection Agency review will not be required for this project. It is anticipated that the permitting and review process could take from six to twelve months. Due to the nature of the projects, it is likely that the permits could be applied for all or multiple sites at once and save both time and expense. Fees to apply for the necessary permits will need to be considered along with any design fees as part of the total project budgets.

We are delighted to have had the opportunity to assist the Town of Winthrop to prepare this Facilities Review and Feasibility Study for the Re-establishment of Public Access Ways in Winthrop. We look forward to the opportunity to assist you further in the realization of this vital project for the community.

Sincerely,

Naecker Ammondson Architects



Eric Ammondson

enclosures

List of Properties

A-1 Fort Heath at northern end of Highland Avenue

Comments:

Located in Town Park
Faces Revere and Broad Sound to the north
Public access to water currently limited
Approximately 50 30" wide stone steps with no railing to high water mark
Beach covered with stone rip rap
Public parking for approximately 12 cars

Proposals:

Two new non-accessible stairs from park to shore for emergency access,
shoreline walking and fishing
New accessible walkways, landscaping and seating areas located at level
of best view
Site lighting and Winthrop Beaches signage
Shoreline is not accessible; development will require a variance from MAAB

A-2 South end of Maryland Avenue in Point Shirley

Comments:

Approximately 3'-6" high seawall
No public access to water
No public parking

Proposals:

New non-accessible platform on existing seawall
New shade structure and seating area
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Site lighting and Winthrop Beaches signage

A-3 South end of Townsend Street in Point Shirley

Comments:

Approximately 3'-6" high seawall in fair condition
No public access to water
No public parking

Proposals:

Repair pavement and concrete seawall
New non-accessible platform beyond existing seawall
New shade structure and seating area
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Site lighting and Winthrop Beaches signage

List of Properties

A-4 West end of Foam Street at Grand View Avenue in Point Shirley

Comments:

Deteriorating concrete stair and metal railing to sand and stone beach
Public parking on Grand View Avenue

Proposals:

New accessible shade structure and seating area
BF curb cut and dedicated BF parking space
Replace existing non-accessible stair for emergency access, shoreline walking and fishing
Accessible ramp to shore
Site lighting and Winthrop Beaches signage

A-5 Railroad Trestle at Shirley Street

Comments:

Site not considered as part of study; study previously completed for Community Development Office

Proposals:

Site not considered as part of study; site could be linked with Site A-6

A-6 East end of Sea View Avenue at old railroad bed opposite Snake Island

Comments:

Scenic view overlooks Snake Island to south
Terminal street with access to historic railroad bed and tidal marsh at grade
Potential on street parking for approximately 2 cars

Proposals:

Dedicated BF parking space
Accessible platform for bird and nature watching with shade structure and seating area
Non-accessible future nature trails on historic railroad bed
Site lighting and Winthrop Beaches signage

List of Properties

A-7 Pico Beach, Pico Avenue at Frances Street

Comments:

New approximately 24" high concrete seawall
PT wood stair to south-facing sandy beach
Adjacent to new public playground
Public parking on Frances Street

Proposals:

New stair to water, shade structure and seating area
Dedicated BF parking space and curb cut
Emergency beach access
Accessible ramp to shore
Site lighting and Winthrop Beaches signage

A-8 South end of Plummer Avenue at Frances Street

Comments:

Approximately 24" high concrete seawall
No stair to south-facing sandy beach
No public parking

Proposals:

New accessible seating area
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Site lighting and Winthrop Beaches signage

A-9 South end of Woodside Avenue and Woodside Park

Comments:

Concrete seawall at grade
Concrete stair to south-facing sandy beach
Potential on street parking for approximately 4 cars
Scenic view and desirable location for public access

Proposals:

New stair to water, accessible landscaped seating area
Dedicated BF parking space and curb cut
Emergency beach access
Accessible ramp to shore
Site lighting and Winthrop Beaches signage

List of Properties

A-10 Not Used

A-11 Bartlett Road at Bartlett Parkway

Comments:

Concrete and stone seawall with stone stairs to south-facing marsh and sandy beach

Proposals:

Refurbish existing stone stair and walls
Dedicated BF parking space
Accessible landscaped seating area
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Pedestrian lighting and Winthrop Beaches signage

A-12 Cottage Park Road and Bartlett Parkway

Comments:

Concrete seawall with concrete stairs to south-facing sandy beach

Proposals:

Remove and replace existing stair and walls
Dedicated BF parking space
New accessible shade structure and seating area or landscaped seating area
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Site lighting and Winthrop Beaches signage

A-13 South end of Bellevue Terrace (private way)

Comments:

Deteriorating concrete seawall approximately 10' above mean high water mark
Across from airport
On street parking only

Proposals:

Site not considered as part of study

List of Properties

A-14 South end of Somerset Avenue

Comments:

On-street parking only on Johnson Avenue
Concrete stair with metal railing

Proposals:

Accessible landscaped seating area w/ dedicated BF parking space
Remove and replace existing concrete stair to water
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Site lighting and Winthrop Beaches signage

A-15 South end of Sargent Street

Comments:

On-street parking only on Johnson Avenue
Deteriorated concrete seawalls (approximately 5' feet above mean high water mark) and concrete stair

Proposals:

Repair deteriorating concrete seawalls
Remove and replace existing concrete stair to water
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Site lighting and Winthrop Beaches signage

A-16 Elmer Avenue at Court Road (231-235 Court)

Comments:

Shore ends of public sidewalk and abutting properties deteriorating
No access to beach
On-street parking only on Court Road

Proposals:

New concrete stair to water
Emergency access stair to water
Shoreline is not accessible; development will require a variance from MAAB
Site lighting and Winthrop Beaches signage

List of Properties

A-17 Loring Road at Court Road (77-81 Court)

Comments:

Street level access to concrete boat ramp at sandy beach
Access road paved and landscaped by abutters
Chain across access road

Proposals:

Dedicated BF parking space
Relocate existing planters to private land
New seating area
Eliminate boat ramp access point
Pedestrian lighting and Winthrop Beaches signage

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Preliminary Cost Summary			
Item	Description	Quantity	Cost
Remove exist stair	4'- wide 12 treads	50	\$1,000.00
BF curb cut		1	\$1,000.00
BF parking space	Striping	1	\$500.00
Conc platform	7' height	200	\$40,000.00
Conc ramp & metal railings		105	\$42,000.00
Conc stair	4'- wide 11 risers	44	\$3,960.00
Metal railings	3'-6" height 2" Ø	48	\$6,000.00
Metal benches	8' metal	4	\$4,000.00
Trash receptacle		1	\$1,000.00
Signage	Winthrop Beaches signage	2	\$1,000.00
Lighting	convenience lighting & con	4	\$7,200.00
Subtotal			\$107,660.00
Contingency		0.15	\$16,149.00
Subtotal			\$123,809.00
Contractor's O & P		0.15	\$18,571.35
Total Construction Cost			\$142,380.35

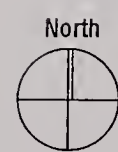


A East View



B South View

1 Partial Site Plan
1" = 20'



Remove exist conc stair & metal railing

New conc ramp & metal railing

New conc platform & stair w/ metal railings and benches

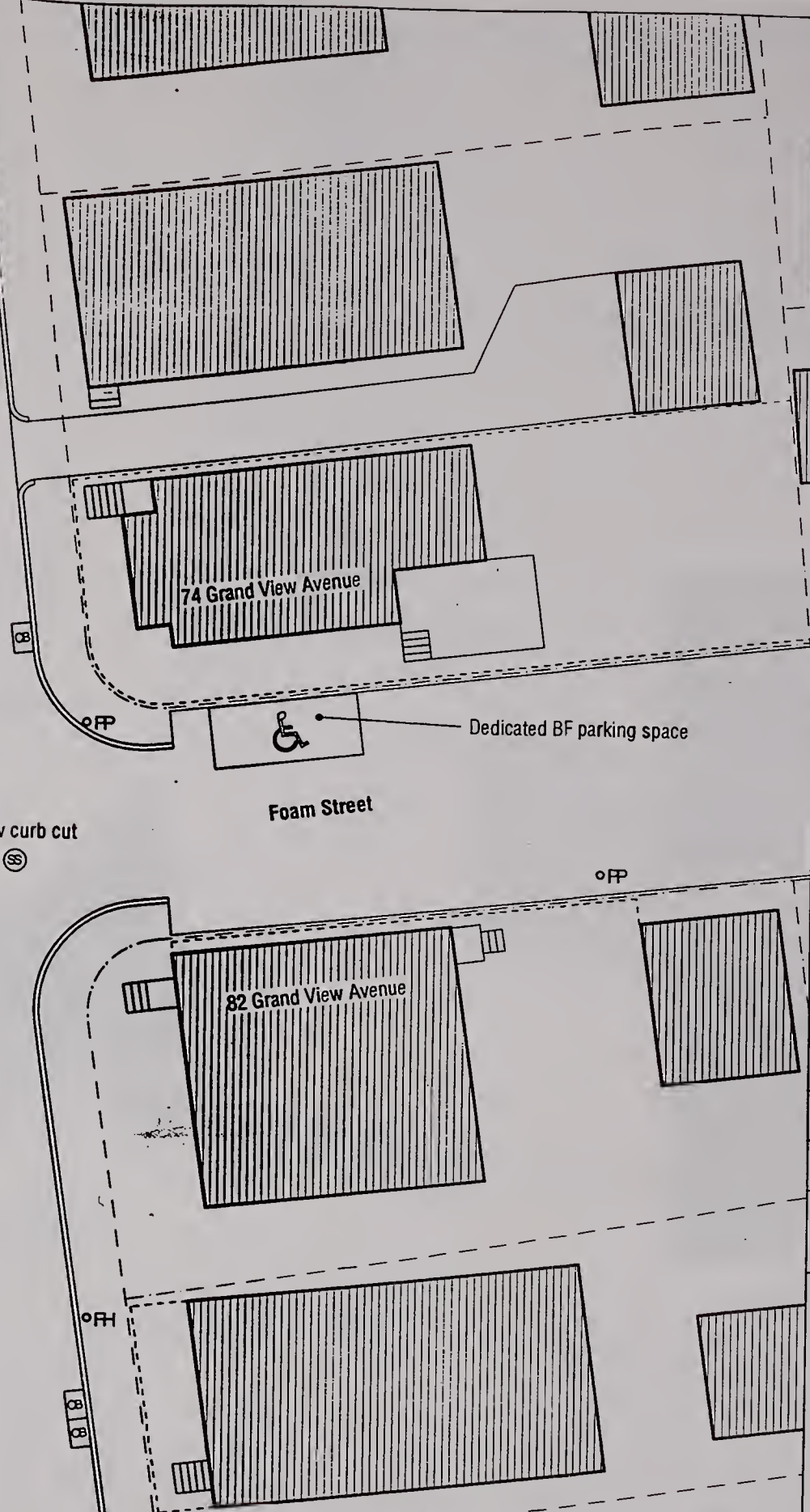
Edge of stone riprap

Mean Low Water Mark

Mean High Water Mark

New curb cut

Grand View Avenue



Community Development Office
Winthrop, Massachusetts

Re-establishment of Public Access Ways
Winthrop, MA

Facilities Review & Feasibility Study

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Tel 617.868.0439
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Email: na-architects.com

Consultants
Cost Estimator

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175 Derby Street, Suite 5
Hingham, MA 02042
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Fax 617.740.2652

Landscape Architect

Carol R. Johnson Associates, Inc.
1100 Massachusetts Avenue
Cambridge, MA 02138
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Fax 617.864.7890

Key Plan



Site Plan-Site 4

Drawing

1"=20'-0"

Scale

25 August 1997

Date

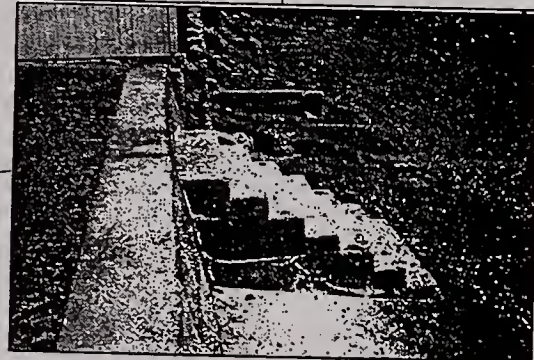
Revisions

Drawing No.

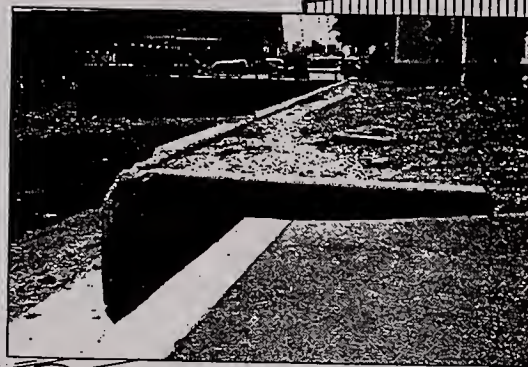
Study Final Report

A-4

Item	Description	Quantity	Cost
Miscellaneous demolition	Remove bituminous paving and subgrade	145	\$1,740.00
Miscellaneous demolition	Remove conc stair, 7' wide, 6 risers	650	\$3,250.00
BF curb cut		1	\$1,000.00
Sitework	48 yards topsoil	48	\$2,400.00
Landscaping	2 3 1/2" caliper trees	2	\$1,600.00
	stone pavers	1300	\$58,500.00
Benches	8' metal benches	3	\$3,000.00
Trash receptacles		2	\$2,000.00
Conc ramp & metal railings		70	\$24,500.00
Conc stairs	4' wide 5 risers	20	\$1,800.00
Metal railings	42' height galv metal railings	78	\$9,750.00
BF parking space	striping	1	\$500.00
Signage	Winthrop Beaches signage	2	\$1,000.00
Plumbing	vandal-proof hosebib and water service	1	\$3,000.00
Lighting	10' pedestrian lighting & controls	4	\$7,200.00
Subtotal			\$121,240.00
Contingency		0.15	\$18,186.00
Subtotal			\$139,426.00
Contractor's O & P		0.15	\$20,913.90
Total Construction Cost			\$160,339.90



A East View



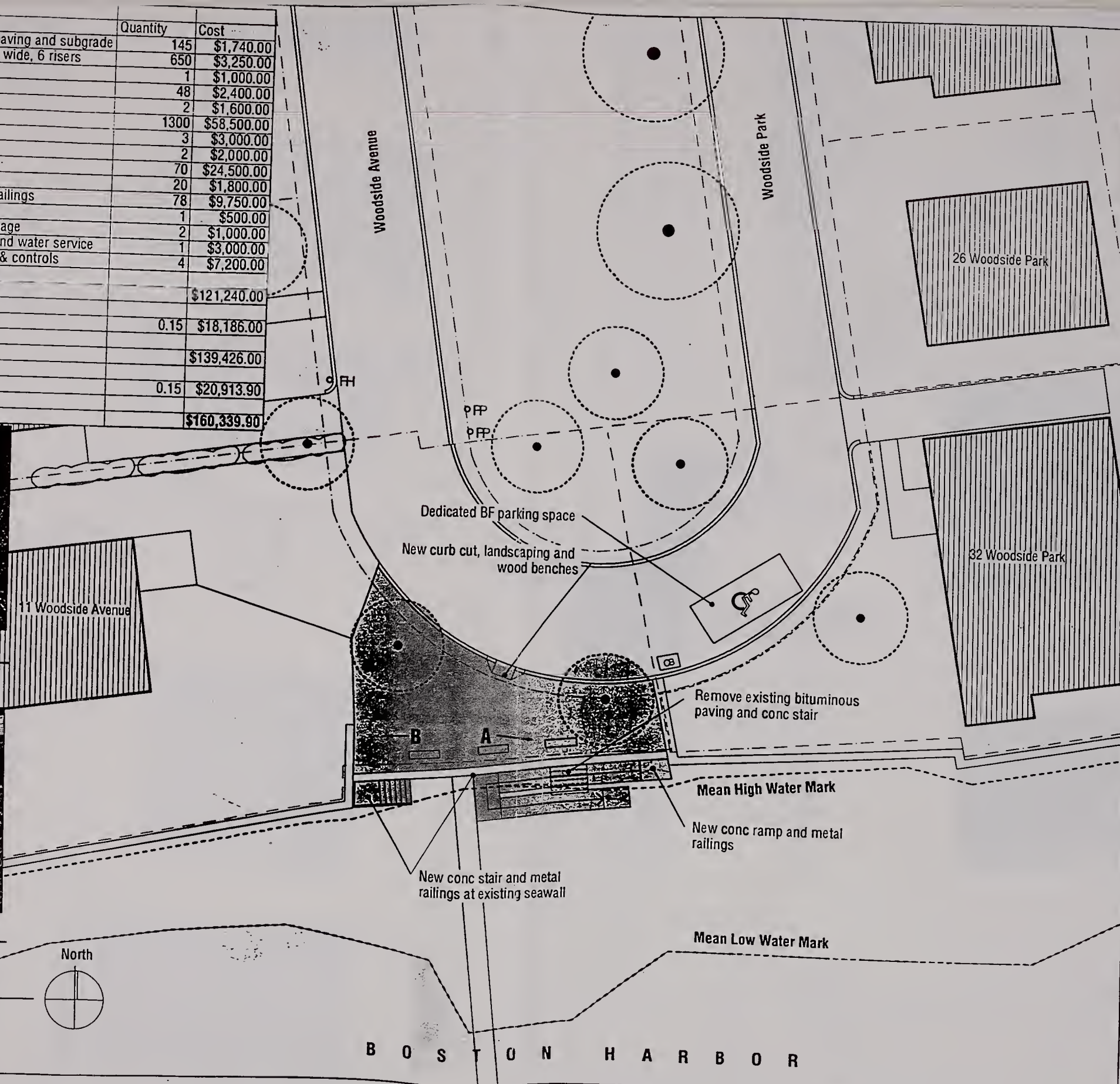
B West View

1 Partial Site Plan

1" = 20'

North

B O S T O N H A R B O R



Community Development Office
Winthrop, Massachusetts

Re-establishment of Public Access Ways
Winthrop, MA

Facilities Review & Feasibility Study

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1100 Massachusetts Avenue
Cambridge, MA 02138
Tel 617.868.6115
Fax 617.864.7890

Key Plan



Site Plan-Site 9

Drawing

1"=20'-0"

Scale

25 August 1997

Date

Revisions

Drawing No.

Study Final Report

A-9

1997 Coastal Access Grants Program

Project Name: HARBORWALK DATABASE: ACCESS TO BOSTON'S WATERFRONT

Location: Boston

Grant: \$3,000

Organization: The Boston Harbor Association

Contact Person: Vivien Li

Address: 374 Congress Street, Suite #609
Boston, MA 02210-1807

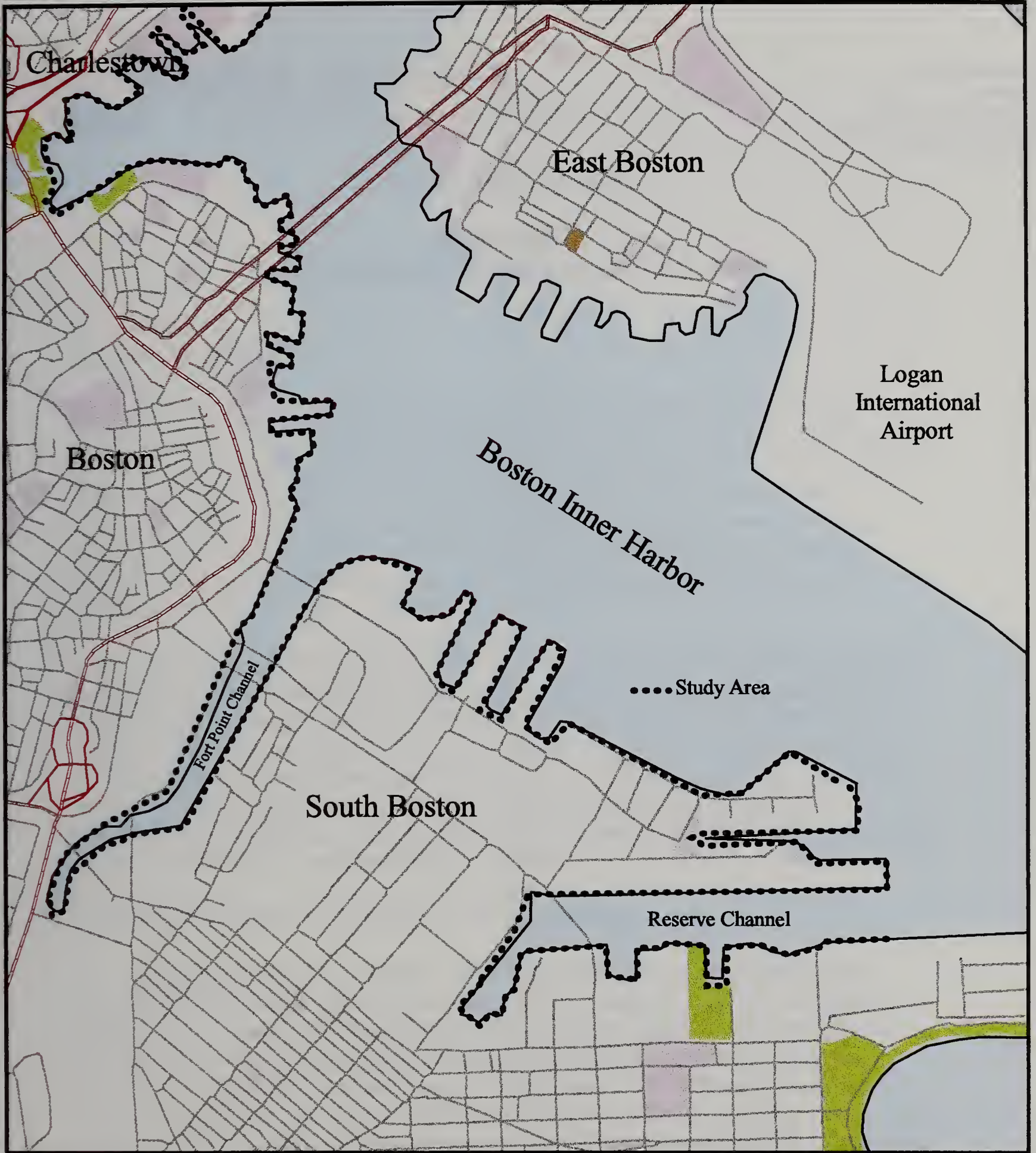
Telephone: (617) 482-1722

Summary:

The Boston Harbor Association (TBHA) conducted a site evaluation along Boston Harbor's waterfront to determine public access opportunities and limitations. TBHA developed a site survey form, conducted on-site evaluations, compiled slides, and performed research on licensing and ownership. The database includes comprehensive site information on all parcels between the Charlestown Navy Yard and the Marine Industrial Park. TBHA is now planning a proactive strategy for addressing the missing links of the Harborwalk and working with developers, property owners, commissions, and agencies. TBHA also conducted public walking tours along the inner harbor, and updated and reprinted a Harborwalk map. The grant supported staff time and supplies.



Photograph by John Lopez



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
 - Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Boston Harbor Association

"Harborwalk: Access to Boston's Waterfront"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet

FINAL REPORT (9/97)

HarborWalk: Public Access to the Boston Harbor Waterfront

Project Description

The Boston Harbor Association received a \$3,000 grant from the Department of Environmental Management's Coastal Access Grant Program to support its HarborWalk project aimed at improving Public Access to the Boston Harbor Waterfront. The underlying goals of the project are to improve public access opportunities (including walkways, handicapped accessibility, water shuttles, and amenities such as sitting areas and rest rooms) and increase public awareness of existing public walkways and amenities along the Boston Harbor waterfront.

Funds from the Coastal Access Grant program were used to perform a site evaluation of existing public access conditions along the waterfront of Boston's inner harbor, develop maps and other outreach materials, and support TBHA's long-term advocacy efforts to improve existing conditions. These efforts support The Boston Harbor Association's ongoing work with property owners and public officials to create a 43 mile continuous HarborWalk along the entire Boston Harbor waterfront. The following steps were undertaken to implement this project.

Determined Realistic Geographic Area for Project

During the Spring of 1997, The Boston Harbor Association hired Nathaniel Cormier (a graduate student at Harvard's School of Landscape Design) to conduct the site evaluation of existing public access conditions. The first task was determining a realistic geographic area that could be surveyed within the limited scope of this project. The Boston waterfront from Charlestown Navy Yard to Marine Industrial Park was selected because of its central location and the density of waterfront development. This area includes Charlestown, the North End, downtown, and the Fort Point Channel/South Boston subdistricts.

Developed Site Survey Form

Once a geographic area was determined, a survey form was created to evaluate each waterfront property. The site survey form is used to assess public access opportunities and features of the site such as: handicapped



accessibility, pedestrian accessibility, amenities at each property, and access to public water transit shuttles. A copy of the survey form, which can be used to evaluate waterfront public access in other urban areas, is enclosed.

Conducted On-Site Evaluations

On-site evaluations were performed for all 77 properties located in the project's geographic area which extends from the Charlestown Navy Yard to Marine Industrial Park. Each site evaluation entailed walking along the property, completing the site survey form, and documenting key aspects of the site through slides. Obstructions to public access such as gates and fences, construction equipment, signage restricting public access, and lack of handicap accessibility were noted. Public access amenities and opportunities such as walkways, artwork, benches, lighting, landscaping, historic sites, water shuttle services, and restrooms were also documented.

The site survey form was amended as necessary to reflect new issues and/or amenities identified through the on-site work. Waterfront properties or portions of properties that do not provide adequate public access to the Boston Harbor waterfront were identified. Key waterfront parcels offering exceptional public walkways or other amenities were also identified.

Related Research for Each Site

On-site evaluations were supplemented by research to determine the property lines, ownership, and Chapter 91 licensing status of each property. The Boston Redevelopment Authority and the City of Boston's Assessor's Office were used as resources to determine the boundaries and ownership of each site. The history and current status of each property's Chapter 91 license was researched by working directly with the Department of Environmental Protection's Wetland and Waterways.

Compiled Results of Evaluation

The results of the surveys, visual documentation, and related research were entered into a database and organized into two large binders which contain: site surveys and copies of most recent Chapter 91 licenses for all 77 properties, and over 130 slides documenting public access opportunities and limitations. These resources are available to the public at The Boston Harbor Association's resource library.

Public Outreach Efforts

An updated HarborWalk Map was developed to visually document the scope of existing and planned public access along the waterfront. The map was supplemented with information for the public about amenities such as

restrooms, handicapped accessibility, seating areas, boat launches, playgrounds, and water shuttle access points. TBHA also hosted two public walking tours during the summer to increase awareness of public access opportunities and waterfront sites along Boston Harbor.

Using the Inventory to Improve Public Access

The Boston Harbor Association is using the information gathered through this project to improve public access at waterfront sites which are not currently accessible. We are working directly with property owners to recommend and encourage changes, and continue to comment officially through the Chapter 91 licensing, and other environmental permitting processes.

Anticipated Next Steps

The Boston Harbor Association will continue to advocate strongly for increased public access and amenities along the Boston Harbor waterfront. We are working with the Boston Redevelopment Authority and the Tax Assessor's office to develop detailed maps of the waterfront which document property lines, and Chapter 91 boundaries as a supplement to our resources. The HarborWalk database is currently being updated to include information about pending development or planned public access improvements at waterfront properties.

The Boston Harbor Association will continue to offer public walking tours of the Boston Harbor waterfront throughout the year. We also anticipate seeking additional funding to conduct a similar evaluation of public access conditions along the East Boston and South Boston waterfront areas.

Timetable

2/97	Developed project work plan and determined geographical area along Boston Harbor: Charlestown Navy Yard to Marine Industrial Park in South Boston.
3/97	Hired project intern to develop site survey form and conduct inventory of existing conditions.
3/97-6/97	Conducted site evaluation of public access opportunities along Boston Harbor Waterfront.
6/97-7/97	Conducted research regarding property ownership and Chapter 91 licensing status.

6/97-7/97	Documented results of site evaluations in a database highlighting public access opportunities and limitations.
8/97	Developed new HarborWalk Map highlighting current public access opportunities.
Ongoing	Distribute HarborWalk Map.
Ongoing	Conduct public walking tours highlighting public access opportunities.
Ongoing	Advocate for increased public access in problem areas along the Boston Harbor Waterfront.

Comments

The Boston Harbor Association greatly appreciates the financial support from the Department of Environmental Management's Coastal Access Grant program which made implementation of this project possible.

Expenditures

The \$3,000 Coastal Access Grant was spent as follows: \$1,750 to pay intern salary, \$1,000 toward TBHA staff support, \$250 for supplies, film, slide development and postage.

Attachments

- Site Survey Form of Existing Conditions
- Sample Completed Site Survey
- List of Properties Evaluated
- HarborWalk Map
- Sample Photos of Waterfront Access Opportunities and Limitations will be forwarded next week

**The Boston Harbor Association
Harborwalk Inventory Database**

Last Updated: 8.13.97

Site: *09) Shipyard Park and Pier 4*

Prop. Parcel No.(s): *002-3500-000*

Address(es):

Owner(s): *BRA*

Contact(s): *City Hall
Boston, MA 02110*

Summary: *this public park has a Korean War Memorial, passive recreational space, and a fountain; Pier 4 is home to the Courageous Sailing Center and it is a major water shuttle stop*

Access

accessibility: *full public access*

notes (access):

Amenities

harbor viewing	X	public parking	X
walkways	X	water transportation	X
lighting	X	public tie-ups	X
seating	X	marina	X
plaza/promenade	X	public pump out service	
park	X	active recreation	
shelter	X	playground	
public telephone		fishing pier	
public restrooms		public art	
drinking water		exhibits	
food service		fountain	X
restaurants		monument	X

notes (amenities): *the Courageous Sailing Center is at Pier 4*

FPAs

buildings within 100': *yes, sailing center office*
indoor g. floor FPAs: *yes, public sailing center*
other FPAs: *sailing center, water shuttle*
special dest. FPAs:
notes (FPAs):

Character

size: *667,798 sq. ft.*
views: *to inner harbor, city skyline*
landscape: *park with trees, passive rec. open space, wooden plank walk*
microclimate: *some protected areas in park, exposed on pier*
signage: *monument, park history, sailing center*
notes (character): *interesting use of artifacts from navy yard, ex. historic pump house, dry dock, and rails for drydock crane*

Users

who: *many, neighborhood people, water commuters, tourists*
when:
notes (users): *lots of spill-over from national park , diversity of users*

Chapter 91

license (year): *1852 (1988), 807 (1981)*
water-dependent uses: *yes, water shuttle, sailing center, passive rec. open space*
tidelands: *filled and flowed, Commonwealth*
notes (Ch. 91): *#807 is a BRA license for commuter boat and sailing center, #1852 is an Immobiliaire New England license to enlarge commuter boat facilities, park was never licensed b/c it was built on former tidelands before 1984*

Miscellaneous: *Courageous Sailing Center is a public-private partnership which makes it possible for disadvantaged youth to learn to sail for free and become leaders and teachers of successive groups of disadvantaged youth*

Book 1

- 1) Yard's End, Charlestown Navy Yard
- 2) Navy Yard Rowhouses
- 3) Pier 8, Shipyard Quarters Marina
- 4) Pier 7, Constellation Wharf Condos
- 5) Walkways between Piers 5, 6, 7, 8, at Charlestown Navy Yard
- 6) Pier 6, Charlestown Navy Yard
- 7) Pier 5, Charlestown Navy Yard
- 8) Flagship Wharf Condos
- 9) Shipyard Park and Pier 4
- 10) Boston National Historical Park, Charlestown Navy Yard
- 11) Hoosac Pier (Constitution Plaza)
- 12) Constitution Marina
- 13) Tudor Wharf
- 14) Paul Revere Landing Park North
- 15) Charles River Dam
- 16) Lovejoy Wharf
- 17) MDC Charles River Reservation
- 18) 585 Commercial Street
- 19) North End Parks
- 20) United States Coast Guard Station- Integrated Command
- 21) Battery Wharf
- 22) Burroughs Wharf
- 23) Lincoln Wharf
- 24) Union Wharf
- 25) Sargents Wharf
- 26) Pilot House
- 27) Lewis Wharf (Granite Building)
- 28) Lewis Wharf (non-building)
- 29) Rosebud Building (One Lewis Wharf)
- 30) Sidewalk Viewing Area between Lewis and Commercial Wharves
- 31) Boston Sail Loft
- 32) Commercial Wharf (Granite Building)
- 33) Boston Yacht Haven at Commercial Wharf
- 34) Commercial Wharf (other parcels)
- 35) Joe's American Bar and Grill
- 36) Christopher Columbus Park
- 37) T Wharf
- 38) Long Wharf
- 39) Custom House Block and Chart House
- 40) Long Wharf Marriott

*Slides for 1) - 40)

Book 2

- 41) Sidewalk between Long Wharf and Central Wharf
- 42) Former New England Telephone Building (Fidelity)
- 43) Central Wharf (New England Aquarium)
- 44) East India Row
- 45) Boston Harbor Garage
- 46) Harbor Towers I and II
- 47) Rowes Wharf
- 48) 400 Atlantic Ave.
- 49) Williams Coast Guard Building
- 50) James Hook and Co. Lobster
- 51) Harbor Plaza
- 52) Boston Edison and CA/T Vent Building #3
- 53) Russia Wharf
- 54) Sidewalks along Fort Point Channel between Congress St. Bridge and Post Office
- 55) Federal Reserve Bank of Boston
- 56) 245 Summer Street (Stone and Webber)
- 57) U.S. Postal Service Annex
- 58) CA/T Vent Building #1
- 59) Gillette Manufacturing
- 60) Boston Wharf
- 61) Channel Building (253 Summer Street)
- 62) 250-254 Summer Street
- 63) 303 Congress Street
- 64) Museum Wharf
- 65) 64 Sleeper Street
- 66) The Barking Crab
- 67) Federal Courthouse on Fan Pier
- 68) Pritzker Properties on Fan Pier
- 69) Anthony's Pier 4
- 70) Asian Island Restaurant
- 71) Mark's Crab Shack
- 72) WaterView Restaurant
- 73) Commonwealth Pier (World Trade Center)
- 74) Commonwealth Flats (World Trade Center Hotel)
- 75) Sidewalk Viewing Area between World Trade Center and Boston Fish Pier
- 76) Boston Fish Pier
- 77) Jimmy's Harborside Restaurant/Yankee Lobster Massport Building

A) Charles River Crossing Consolidated Written Determination

B) Fort Point Channel Amended Consolidated Written Determination

*Slides for 41) - 77)

1997 Coastal Access Grants Program

Project Name: THOMPSON ISLAND PUBLIC ACCESS IMPROVEMENTS

Location: Boston

Grant: \$3,000

Organization: Thompson Island Outward Bound Educational Center

Contact Person: Carol Nugent

Address: P.O. Box 127
Boston, MA 02127

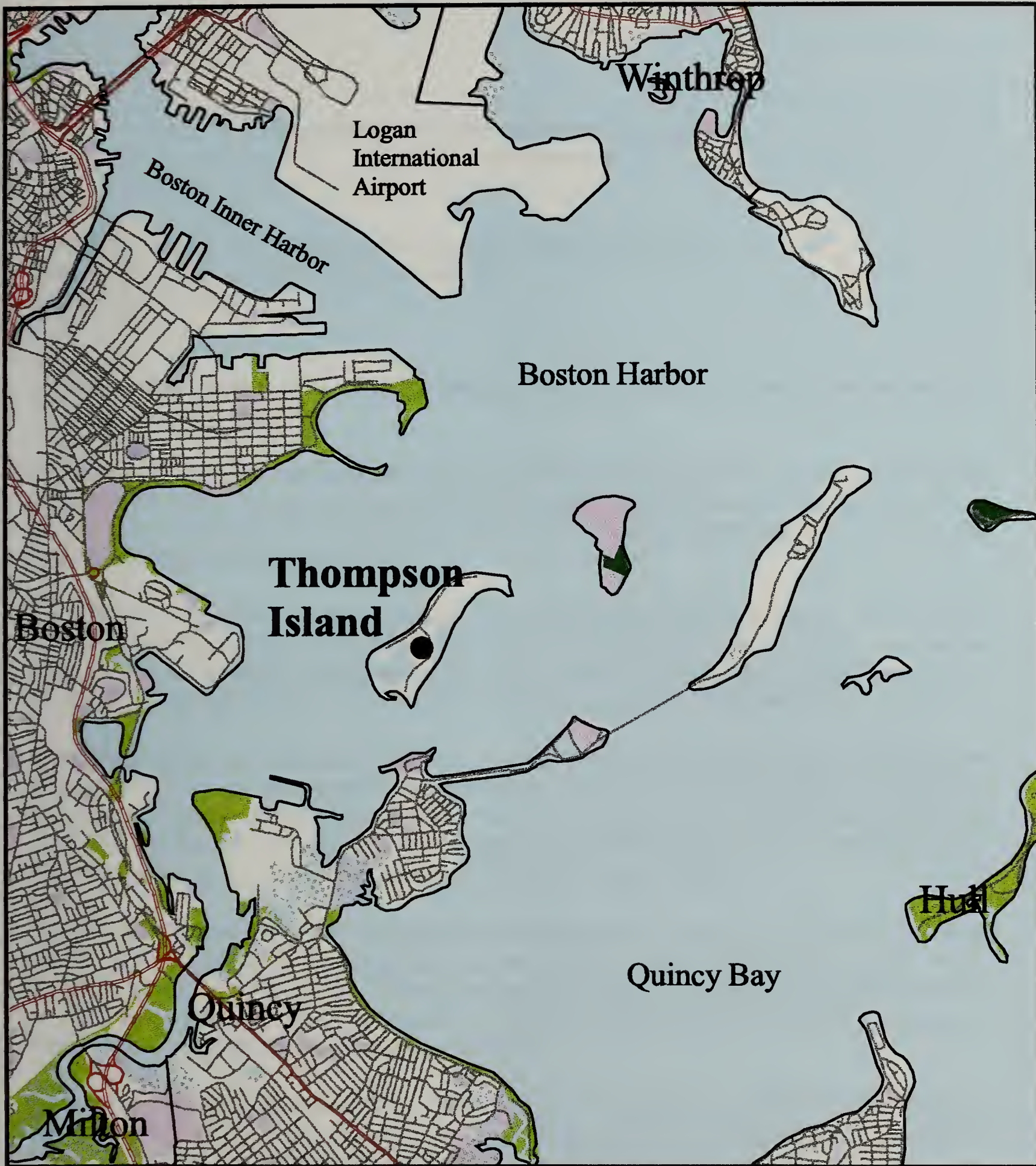
Telephone: (617) 328-3710

Summary:

The Thompson Island Outward Bound Education Center (TIOBEC) is expanding public access to 157-acre Thompson Island, which is part of the newly designated Boston Harbor Islands National Park. The grant supported the identification and training of a knowledgeable corps of volunteer guides; a concerted marketing effort, installation of signage, and upgrading and printing of annotated trail maps; and revegetating eroding areas, acquiring a composting toilet, and tools and labor for trail maintenance. Visitation has substantially increased, and hundreds of visitors have enjoyed the island's enhanced trail system.



*Photograph courtesy of Thompson Island
Outward Bound Environmental Center*



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Thompson Island Outward Bound

"Thompson Island Public Access"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet

**Department of Environmental Management
Final Grant Report**

Thompson Island Outward Bound Education Center (TIOBEC)
Submitted by George Armstrong, President
September 26, 1997

1. Project description: if the project changed from the original proposal, discuss how the project evolved and why.

TIOBEC's goals in increasing public access to Thompson Island are to: 1) participate fully as part of the newly designated Boston Harbor Islands National Park; 2) educate the public about the rich history and natural resources of Thompson Island; and 3) preserve the pristine ecology of Thompson Island.

To achieve these goals, TIOBEC planned to reach the following objectives: A) to create a knowledgeable staff and volunteer corps (from TIOBEC and Friends of Boston Harbor Islands); B) to provide appropriate marketing, guide materials and signage; and C) to improve Thompson Island's natural areas through revegetation and trail maintenance.

During the spring and summer of 1997, we were successful in creating a corps of volunteers through an alliance with the Friends of Boston Harbor Islands (Friends). TIOBEC's Director of Operations, Scott Bortzfield, created an information packet for the Friends for their initial volunteer training, and he also greeted each Saturday's visitors at the boat dock. Approximately 10 to 15 people came out to see the island weekly.

Aside from the Saturday tours, hundreds more visitors to Thompson Island took advantage of the trails, trail maps and signage for self-guided tours and student-guided tours. TIOBEC conference and outing business brings 3,000 people annually to the Island, as well as 1,000 more through TIOBEC special events such as Alumni Day. Many of these guests enjoyed this new activity on Thompson Island.

Thompson Island made a concerted effort this year to market the public's opportunity to experience the Island. Each week the boat schedule and tour was published in the Boston Globe Calendar and in the Boston Phoenix, as well as in their summer activities issue. TIOBEC flyers and word-of-mouth also attracted more visitors. Our records indicate visitation tripled as a result of these efforts.

An all-around success was the trail signage, which coordinates with the trail guide and educates visitors on ecologically and historically significant areas on the Island. The trail signage consists of wooden signs with descriptions of the sites laminated to protect from elements (replacement descriptions were also made). We were also able to re-print copies of our old trail guide, instead of continually photo-copying it.

One unanticipated project TIOBEC took on to improve public access and other programs was the addition of a composting toilet. The indoor toilet facilities are poorly located for visitors to TIOBEC's natural areas. The total cost of the ecologically friendly toilet was \$20,800, \$20,000 of which was funded by a private donor, \$800 supported by the DEM grant.

The original scope of the project included a budget of \$8,000, dependent on fundraising. Although TIOBEC was not able to raise all of the funds intended, the support of the DEM allowed TIOBEC to complete the most critical projects. Additionally, we made the most of the resources available with volunteer groups who were used to plant maple trees and revegetate some areas.

2) Anticipated next steps: what are the plans for continuing the project's goals in the future, or for maintaining the project?

Having redesigned our trail guide, we are looking forward to printing the new version in the Spring of 1998. TIOBEC will also continue to improve the trails and take advantage of volunteer groups for assistance.

3) Timetable: describe your steps in accomplishing the project including necessary permits.

Starting in April, TIOBEC Director of Operations, Scott Bortzfield, contacted the Friends of Boston Harbor Islands and began to work with them to create a knowledgeable volunteer corps. By June, we had replaced the signs and readied for our visitors. Trail maintenance and coordinating volunteer efforts continued through the summer. The official tours finished on the Saturday of Labor Day weekend. Access to the trails will continue to be available through special arrangement with TIOBEC.

4) Visual Documentation

Please see our attached photographs of the signage erected along our Southwest trail.

5) Samples of end products

Please see our attached trail guide with map, published on recycled paper.

6) Comments: any comments on the grants program and its administration? what would have been the project's accomplishments without this funding?

Without the support of the Department of Environmental Management TIOBEC would have only been able to accomplish the bare minimum of our public access goals--mainly trail

maintenance. Certainly our trail guides would have been photo-copied, and our relationship with the Friends would not have been so smooth. Our marketing efforts would also have faltered without the ability to send faxes every week to the local newspapers and inform them of our presence.

The inclusion of Thompson Island into the National Recreation Area has led us to anticipate a considerable increase in the Island's visibility and therefore its visitation over the next few years. The Department of Environmental Management's gift has allowed us to successfully plan ahead for Thompson Island's transition into a designated recreation spot within Boston Harbor.

7) Receipts

Please see the enclosed copies of some of the receipts from this project.

FINAL BUDGET FOR PUBLIC ACCESS PROGRAM	
	DEM grant
Training of guides	\$ 200
Materials for signage	295
Maintenance tools (purchase and repair)	225
Labor (5 days @ \$100/day)	500
Composting toilet (total cost \$20,800)	800
Printing (maps & flyers)	225
Plant & tree materials	225
Administration & Oversight	530
TOTAL	3,000

1997 Coastal Access Grants Program

Project Name: NEPONSET RIVER ACCESS

Location: Milton

Grant: \$3,000

Organization: Boston Natural Areas Fund

Contact Person: Jayne DiCandio

Address: 294 Washington St., #301
Boston, MA 02108

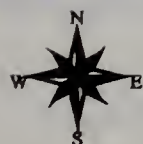
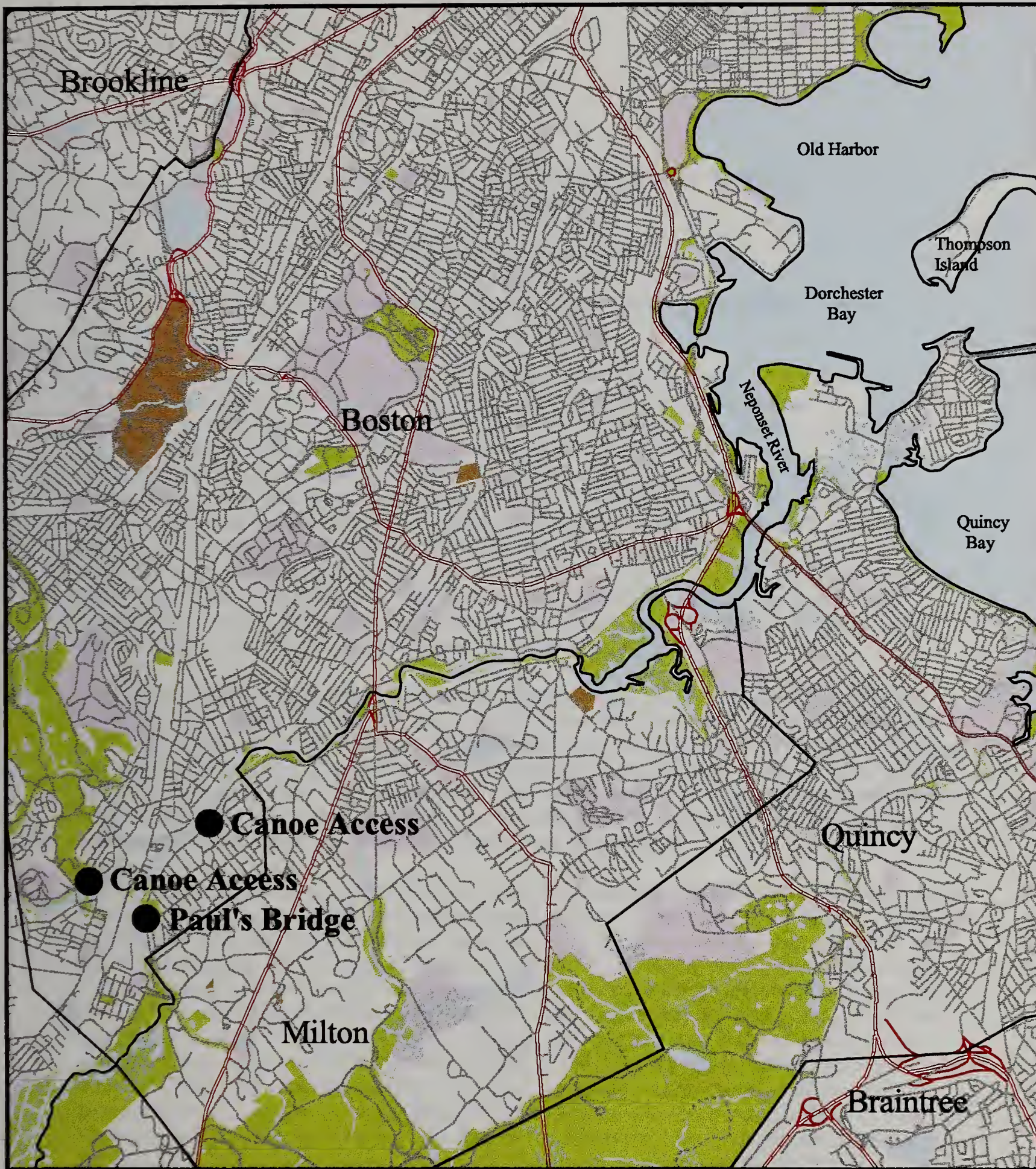
Telephone: (617) 542-7696

Summary:

The Boston Natural Areas Fund (BNAF) received a grant to construct a 1500-foot trail for pedestrians and wheelchair-users along the upland edge of the salt marsh in the MDC Neponset River Reservation. Due to unresolved issues in this area, BNAF shifted the project to support two Youth Conservation Teams' construction of two new canoe access points, reconstruction of a third, and related trail work. The grant supported the stipends of supervisors, materials, and a workshop.



Photograph by Jayne DiCandio

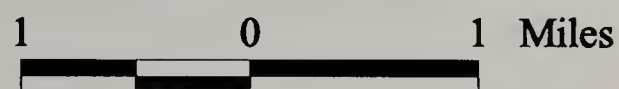


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Boston Natural Areas Fund

"Trail Improvements & Canoe Access"

1997 DEM Coastal Access Grant



DEM Coastal Access Grant Final Report

submitted by

Boston Natural Areas Fund
for
Trail Improvements and Canoe Access along Neponset River

1. Project Description:

Boston Natural Areas Fund (BNAF) sponsored for the 3rd Summer, two Youth Conservation Teams on the Neponset River. The 24 youths are paid through the City of Boston's Youth Clean-Up Corps. BNAF hired two Supervisors, a Field Manager and BNAF's Program Manager provided environmental education for the youths. The youths were all between the ages of 14-17 and worked 3-4 days a week on trail maintenance, constructing canoe launches, and clean-ups. One or two days a week the teens participated in environmental education which included water quality testing, stream side surveys, dip netting for river creatures, tree identification, canoeing and field trips. The first week of work the supervisors and teens had a day of training from Peter Jensen, a Trail Consultant from Open Space Management. The teens learned how to use tools, clear a trail, trail maintenance, and construction techniques for the canoe launches. Jensen designed the plans for the canoe launch and reviewed the plans with the group.

Originally, one of the summer projects was constructing a Salt Marsh Trail between the Butler T-stop and the existing trail in the MDC Neponset River Reservation in Dorchester. This trail is part of the MDC Master Plan for the Lower Neponset River. The MDC decided they did not want the trail completed at this time. The reason was there are still some issues with neighbors and the MBTA (a MBTA fence would have to be removed) which have not been worked out. There is access to the existing trail nearby and people are still able to walk along the marsh at the MDC Neponset River Reservation.

MDC was excited, however, about BNAF's continued efforts to create canoe access points along the river. The two summer teams created two new canoe access points and rebuilt an old one. Creating the canoe access points not only is a way to encourage people to use the river but also protects the river from erosion which can occur when people make their own paths to the river. One of the canoe access points is a portage point at the Lower Mills Dam where the public can safely pull out of the river before the dam and portage to Milton Landing. The second location is at Ryan Playground where a canoe access was built last year but, there was a problem with loose timbers. The kids rebuilt the stairs and connecting them together. They also planted native riparian vegetation along the edge of the stairs to prevent erosion. The third site at Paul's Bridge in Milton was the biggest project of the summer and took one team most of the summer to complete. The teens placed large flat stones (2'-3' in size) at the water's edge and built steps up from that point. The kids also did planting along the edges of the stairs.

Trail improvements were done at the existing marsh trail, by the Lower Mills canoe site and at Ryan Playground.

2. Anticipated next steps:

BNAF will continue to have Youth Conservation Teams working on the Neponset River. Each year the teams will provide any maintenance needed to sites along the Neponset in Boston & Milton. This fall we will have 4 of our summer teens working 3-4 Saturdays on some new projects and plant maintenance/monitoring at the canoe sites.

Next year we also plan to continue with providing access to the river with the constructing of two new canoe launches on both sides of the Paper Mill Dam. Plans have been drawn up and the MDC and a member of the Milton Conservation Committee have already visited the site.

3. Timetable:

Open Space Management designed the plans for the Canoe access in March. Discussions of summer work plans began in May with MDC. We started the permit process with Milton in May and the City of Boston and MDC permit process was done in June. The teens worked from June 30th through August 22nd and trail/construction training was July 1st.

BOSTON NATURAL AREAS FUND, INC.

294 Washington Street, Room 301, Boston, MA 02108-4608 (617) 542-7696 Fax: (617) 542-7696
email BNAF@AOL.com

1997 Coastal Access Grants Program

Project Name: THE QUINCY COASTAL PROJECT

Location: Quincy

Grant: \$2,860

Organization: North Quincy High School

Contact Person: Margo Stockmayer

Address: 316 Hancock Street
Quincy, MA 02171

Telephone: (617) 984-8996

Summary:

The North Quincy High School conducted a study of Quincy's coastline that involved the school's Science and Social Studies Departments. Activities included environmental sampling in coastal wetlands, beach clean-ups, and historical study of human use of Quincy's coast. The grant supported staff time for developing the curriculum, as well as purchase of various field biology supplies.



Photograph by Margo Stockmayer



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North Quincy High School

"The Quincy Coastal Project"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet

Report for the Grant from the Department of the Environmental Management

by: Margo Stockmayer, Betsy Lengyel, Marc Scanlan.
September 28, 1997.

The other two teachers of the Quincy team wrote their individual reports, which are enclosed, but, since I was the team leader I will write a full report for all the work done within the group. My report also includes a report on the (biological) work done for my part of the study. For this, I will include student work, photos, other related work along with the receipts for money spent from the budget.

First, Black's Creek was chosen as a model of the local marine environment of Quincy, serving as a site to educate the biology students about ecosystems, including the biological residents of this community, and on wetlands in general.

My class, along with the Earth Science class were able to do some sampling at Black's's Creek for water, soil, organisms (invertebrates and vertebrates),. This area proved to be an extremely educational and fun (see photos) site, close enough to home as to encourage appreciation of nature found in Quincy. This study allowed the students to apply knowledge learned in the classroom to the "real" natural world.

Additionally, two beach clean-ups were spawned from the grant study (see posters) , which enhanced the community service aspect of education and increasing pride in the cleanness of their local beaches. Furthermore, the data of the marine debris was used by students to display at the high school Science Fair last year (see enclosed report).

The model built for these studies has had a great "start", but only a start. After a full year of curriculum planning, we can see areas to be enhanced, deleted, and expanded, particularly now that we have all the equipment needed (see budget).

The teachers continue to have enthusiasm for the project, and now is the year that we can actually practice all the lessons designed during the last year. Once the students can get evolved on a broader basis, we can really forge ahead!

However, we have yet to really find the key to joining the three disciplines together. The geology and biology sciences lend themselves to some overlap, but the history component, even though well done by the teacher and students, need some gluing together to make a more cohesive unit for the whole student body involved.

Moreover, trips to Black's Creek have become problematic, being too far to walk during school hours and we have discussed using a few sites closer to school to be able to walk to during school hours.

This work has been very rewarding, enriched by the knowledge imparted by

experts in the field like Clair Yeomans, from the conservation Commission of Quincy. Also, the understanding nature of the overseer Geordie Vining, whom I enjoyed conversing with about the project, added pleasure to the work..

MARGO A. STOCKMAYER
ANTHROPOLOGY / BIOLOGY TEACHER
N.O.H.S. '1997'

MASSACHUSETTS COASTAL WETLANDS PROJECT

A year of stretching the classroom out doors and learning to do research. Students studied the coastal wetlands of Quincy at Blacks Creek. We approached this study by applying the scientific method in developing projects on environmental changes at Blacks Creek. The projects involved both soil and water quality. Samples of both soil and water were collected during the year and analyzed for salinity, ph, and dissolved oxygen. Students were trying to determine the environmental impact of the locks that the government built at the outlet of Blacks Creek.

Grant money was used to purchase equipment to test soil and water quality, and to map Blacks Creek. Collection locations of both soil and water can be placed on their maps. This fall we are learning to use the mapping equipment, and a piece of software on map skills. I expect to have my classes out to actually draw a map of the area.

This is a project in the works that is evolving as we become more knowledgeable of the coastal environment. Recently, at a beach cleanup, it was discovered that a stretch of the beach along Merrymount is privately owned, but no one seems to know why. This stretch of beach is not far from the Blacks Creek outlet into the bay. It would be a natural move to see the environmental impact of private versus public beach, and determine why that part of Quincy is private.

Betsy Lengyel Teacher
Earth Science
N'GHS (1997)

Summary of the History Component of the Black's Creek Study
and Coastal Zone Management Project:

It was my intention to develop a student centered curriculum that would accompany the work being done by North Quincy's Science Department with regards to Quincy's coastal and more specifically Black Creek's environmental condition. Students were required to discover the ways in which Quincy's coast was utilized and altered by its Native Inhabitants and Early Settlers. This information was gained by the students by working in groups on primary source material that was made available to them at The Quincy Historical Society. Physical projects were created and presentations given that enlightened the entire class and myself and gave us a greater appreciation of Quincy's historical relationship to its vast coastline. In summary, the project was very worthwhile as an educational endeavor and I am very happy that I was able to participate in it.

This project covered Quincy History up through The Revolutionary War Period. In my opinion much more could be done studying the evolution of Quincy's coast in the nineteenth and twentieth centuries, as there is more concrete documentation available on local issues as we get closer to modern times. If this project were once again funded I would focus my students' energies on discovering how Quincy's coastal environment was affected by among other things such events as the Industrial Revolution and World War Two. I am sure there would much visual data that my students could work with as a means of recreating the evolution of Quincy's coastline through the monumental changes of the twentieth century. I believe this experience would be very rewarding for all involved.

*Marc Scalan
History/Social
Studies Teacher
NQHS (1997)*

Abstract

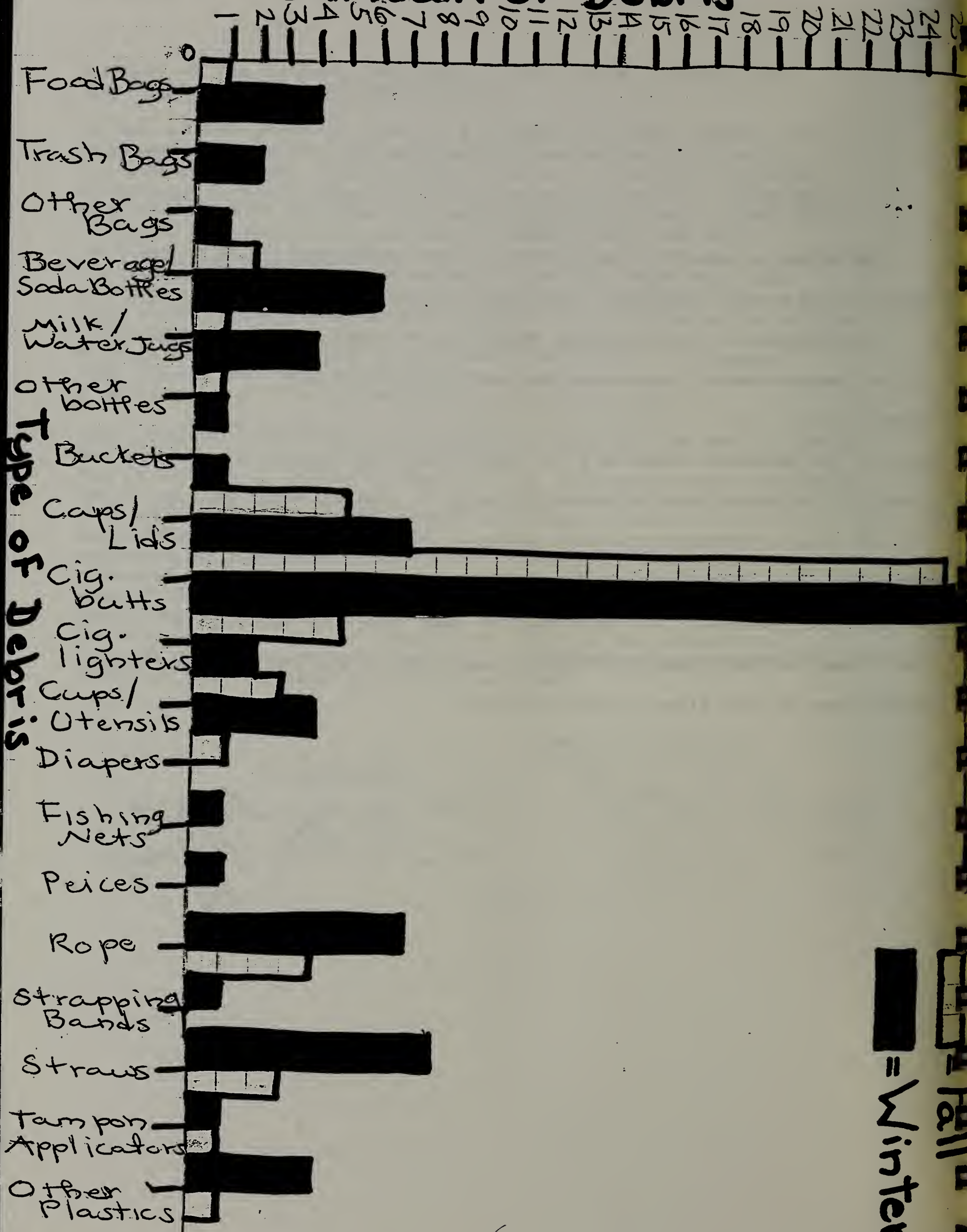
In my experiment, I compared the types and amounts of marine debris from a fall beach cleanup to a winter cleanup. *why?*

Other students in my school did a beach cleanup in September at Wollaston Beach. They recorded what they found on International Coastal Cleanup Data Cards. For a winter cleanup, I went to the same beach and did my own cleanup. I recorded what I found on the same types of cards and then I compared the results.

If I were to expand on this project, I could do several things to improve on it. I would start now and do my own cleanup for all four seasons. If I did that, I feel that the results would come out more accurate. Next time, I would record what the weather was at the time of the cleanups.

*A. Haddad
10th Biology Student
N&HS / Mrs. Frymayer
(1996)*

Amount of Debris



= Winter
 = Fall

Date from Beach Clean-up (9/96)

1997 Coastal Access Grants Program

Project Name: **BOUVE PARK COASTAL ACCESS PROJECT**

Location: **Hingham**

Grant: **\$3,000**

Organization: **Town of Hingham, Conservation Commission**

Contact Person: **Pine duBois**

Address: **7 East Street
Hingham, MA 02043**

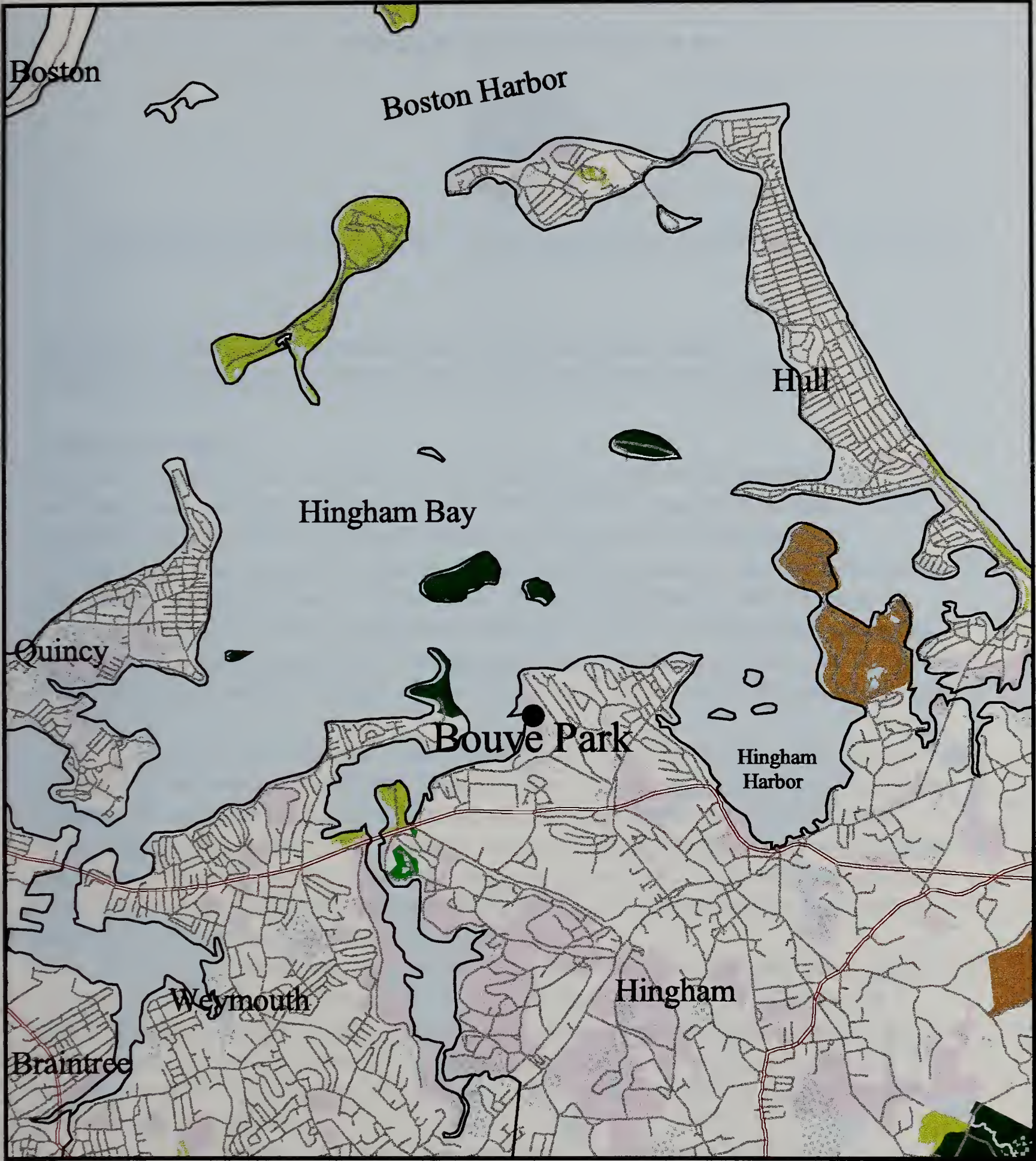
Telephone: **(617) 741-1445**

Summary:

The Town of Hingham is attempting to address the impediments to public access at the 30-acre Bouve Conservation Area along Hewitt's Cove. No parking has been available, boundaries have been questionable, remnant chain-link fences and other debris has discouraged access, and only a fragmentary trail system has existed within the reservation. Research revealed that the Town's access easement from Shipyard Drive to the southern portion of the property was rescinded in the late 1980's; discussions continue with the new owner of the abutting shipyard. Two survey plans were prepared depicting the existing trails and topography, and the northern and southern boundary were surveyed and staked as a basis for designing and landscaping an entrance, upgrading the trails, and working with abutters. The grant supported the survey work.



Photograph by Pine duBois



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Town of Hingham

"Bouve Park Access Project"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet

TOWN OF HINGHAM



CONSERVATION COMMISSION 7 East Street Hingham, MA 02043 (617) 741-1445

1997 DEM Coastal Access Small Grants Program: Final Report BOUVE CONSERVATION AREA AT HEWITT'S COVE

Project Description

The intent of the project was to hire a consultant to survey and permanently mark the north and south property boundaries of the 30 acre Bouve conservation land; provide a topographical plan of the southern boundary and survey the existing footpath in order to provide the basis for landscape and trail improvements; and to seek funding to perform access improvements. Shortly after the grant application, the Commission discovered that the Town's access easement to the property from Shipyard Drive had been rescinded in the late 1980's. This caused discussions with the new property owner to achieve access within the scope of his development plans for the 130 acre Shipyard area.

The survey of the property was accomplished by Coler & Colantonio, Inc., a local engineering and survey firm. Some difficulty was encountered during the property line research for the north boundary which has delayed the completion of this project. Apparently the historical record is unclear and sufficiently complex to have caused an extensive amount of time in review exceeding the consultant's estimate. Because this boundary has been the subject of some disagreement, it is important that the work be done well and accurately represent the legal title.

Two survey plans were provided by the consultant, one depicting the existing trails and the other showing the topography of the land near the Shipyard. These were provided to DEM in mid-August, and will serve as the basis for future planning and improvements to this conservation property. The final work on the north property boundary will be completed by November 7, 1997, including the monumenting of the property bound with ribar.

In the July 1997, the Commission applied for funds through the Recreational Trails Program in order to upgrade the Shipyard access and trail to the north property line at Beach Road. The grant request was not successful.

2) Anticipated next steps include: a) ongoing discussions with Mr. Paul Trendowicz in order to establish a legal public access easement from the Shipyard property into Bouve (see attached letter and *Boston Globe* article regarding proposed development); b) continue to seek funding for trail improvements and access landscaping; c) improve signage.

3) **Timetable**: No permits were required as this project was limited to survey work. Unexpected problems arose early regarding the access easement which delayed the performance timetable. During the process of obtaining job estimates from several firms, it was discovered that the town may have revoked its own easement to the conservation land. This led to a long period where the town's counsel had to investigate the history of the land purchase, the layout and taking of Shipyard Drive, and the history of offers of easements from various and previous property owners. Although it was an unwanted discovery, the information that the town no longer enjoyed a clear easement into this important coastal area is fundamentally important to this project and to the Town.

In May, the legal issues regarding the easement were determined with town counsel and the property owner. Request for proposals for the survey work were issued to four firms. The Commission awarded the low bid in June and work began in July. The south boundary survey and trail and topo work were done in July and plans prepared in August. The firm notified the Commission that the work on the North boundary was problematic and delayed completion of that task. The contract for the survey work was \$5,000.

During the project, the MBTA parking area was upgraded with paving and drainage. Discussions were held with DEM and the MBTA to provide bike racks at the commuter boat and regarding future plans to provide a bikeway or pedestrian walk through the new parking area or along the coast. Discussions were held with Mr. Trendowicz regarding access and maintaining public access along the water. These discussions will continue.

In July a Grant application was made to the Recreational Trails Program for ISTEA funds to improve the access and trail. This application was not successful.

4) **Visual documentation** photographs are included that were taken during July.

5) **End products**: Coler & Colantonio's survey and topographical plans were submitted to the Division of Resource Conservation by letter on August 11, 1997.

6) **Comments**: This project would not have been accomplished without this grant incentive. It is timely and important to have accomplished this and to be prepared for the major developments that have and are to occur in this area in the very near future.

7) **Receipts** : One payment has been made in the amount of \$3,836.86. An additional payment of \$1,163.14 will be made upon completion of the boundary work near the Wompatuck Beach Association on Beach Road--the north property line.

1997 Coastal Access Grants Program

Project Name: OLD REXHAME BEACH ACCESS RESEARCH

Location: Marshfield

Grant: \$3,000

Organization: Marshfield Beach Rights Coalition

Contact Person: Marianne McCabe

Address: 55 Snow Road, Suite #333
Marshfield, MA 02050

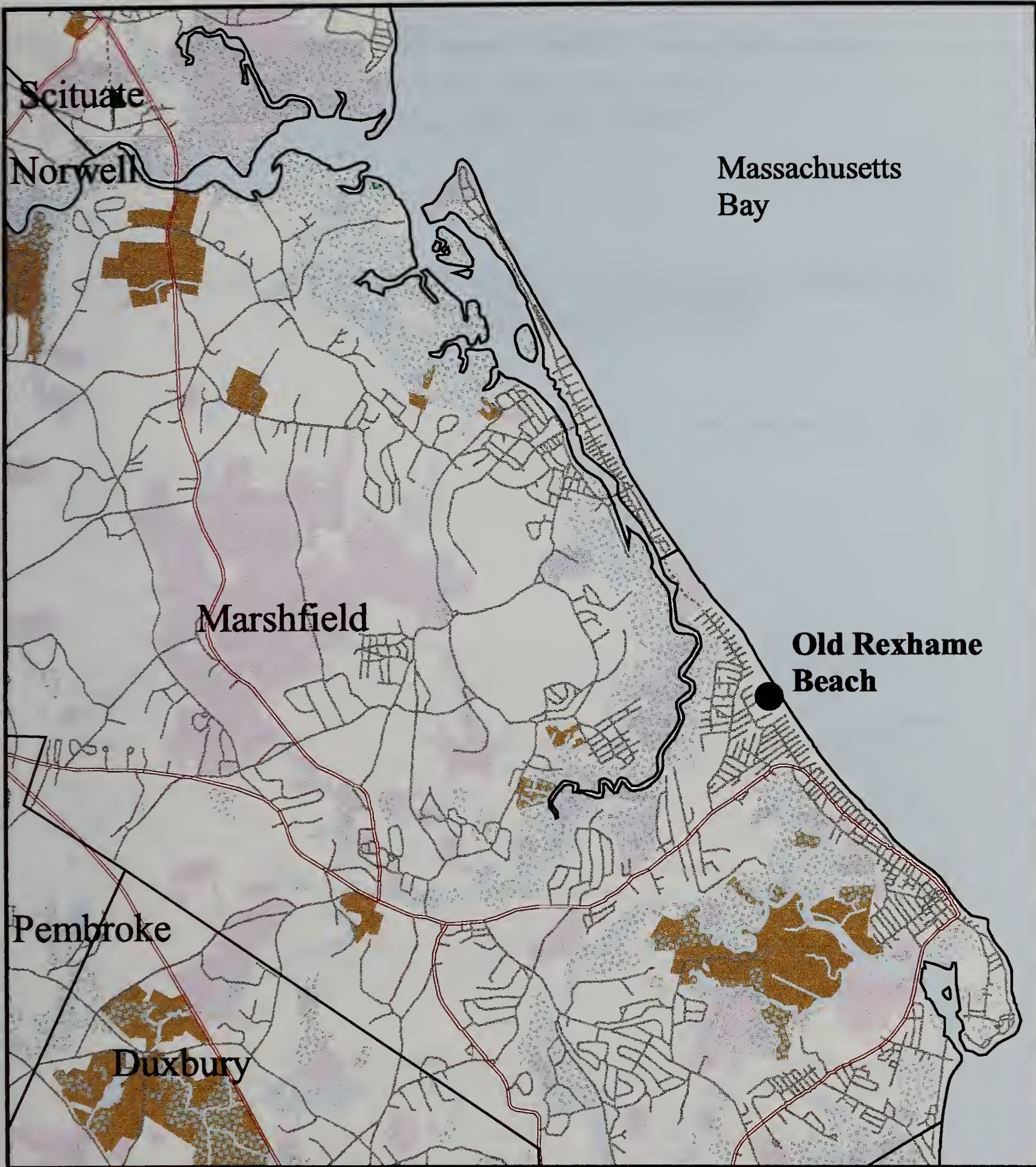
Telephone: (617) 576-9848

Summary:

The Marshfield Beach Rights Coalition continued legal research aimed at identifying and preserving public access to Old Rexhame Beach in Marshfield. The residents of the area have posted warning signs, installed plantings to obscure the ways, blocked passage through fences and chains, hired security guards, and pressed for criminal trespassing charges. The Marshfield Beach Rights Coalition reviewed every deed conveyed by Marshfield in this area during the past few hundred years in order to substantiate its claim that the Town has owned the beach since 1645, plus an access way to it. The grant supported staff time, legal services, and associated materials.



Photograph by John Lopez



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Marshfield Beach Rights Coalition

"Old Rexhame Beach Access"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



Marshfield Beach Rights Coalition, Inc.

55 Snow Road, Suite 333

Marshfield, MA 02050

FINAL REPORT TO THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
COASTAL ACCESS SMALL GRANT PROGRAM
OLD REXHAME BEACH ACCESS PROJECT

September 29, 1997

Mr. Geordie Vining
Department of Environmental Management
100 Cambridge Street, Room 1404
Boston, MA 02202

Dear Mr. Vining:

We want to take this opportunity to thank the members of the Coastal Access Team for the extensive assistance given to the Marshfield Beach Rights Coalition in our endeavor to preserve public rights of access to Old Rexhame Beach in Marshfield. In particular, we wish to thank you and John Lopez for your advice and moral support. John's assistance on several technical aspects of coastal geology and topography proved invaluable and his dedicated efforts to assist us have been truly impressive. We also wish to thank Irene Guild, Esq. of the Attorney General's office for generously sharing her legal expertise and research on coastal access issues. We found the publication you provided to us, Preserving Historic Rights of Way to the Sea, to be particularly useful as a general guide to conducting an historic research project such as the one we undertook.

There is no doubt that without all of this assistance, and the financial assistance from the Coastal Access Small Grant Program (the "Grant"), Old Rexhame Beach by now would be officially closed to the public and the beauty of this natural resource lost to all but a very few. The lessons of the Old Rexhame Beach project are set forth below. The bottom line is that those who restricted access to this beach acted unlawfully and were stopped only when public ownership of the beach was discovered through diligent research. It is hoped that the Old Rexhame Beach project will raise awareness of the fact that some beaches presently being passed off as private property may be actually publicly owned, and will serve to encourage others to investigate those claims of private ownership when public use of the shore is being denied.

I. THE CLOSING OF OLD REXHAME BEACH TO THE PUBLIC

Although used by the public for hundreds of years, Old Rexhame Beach in Marshfield had become restricted to the public increasingly over the last several years. See Exhibit A. Residents of a subdivision carved from the ancient Thomas farm, which adjoined Old Rexhame Beach, claim ownership of this beach down to the low water mark. Their subdivision is referred to as "Old Rexhame." See Exhibit B. Local folklore has it that the Old Rexhame neighborhood once served as a haven for bootleggers and smugglers. Lending credence to the old folklore, in the 1980's the U.S. Justice Department's Organized Crime Strike Force conducted surveillance there in connection with a major drug smuggling investigation code-named "Operation Plymouth Rock." After that period, privacy issues seemed to increase in the area.

Fiercely protective of their privacy, and unwilling to share a beach they felt was their own, the Old Rexhame residents harassed and threatened members of the public who used the beach or attempted to gain access to the beach through their neighborhood. Carrying their attempts at intimidation to the extreme, they sometimes sicked their dogs on beach goers, including children, who attempted to reach the beach by walking over their roads. They erected signs all over the beach and roads declaring those areas as their private property and warning against trespassing. Intending to physically obstruct access to the beach through their subdivision, the residents installed fences and chains across the roads. To disguise points of entry to the beach, they planted grass and shrubs over sections of the roads to make them appear to be front yard areas.

On summer weekends, private police details were stationed along the roads to intimidate families from trying to gain access to the beach. The Marshfield Police authorized these private details although none of the Old Rexhame residents had ever provided documentation to the police or Town Counsel sufficient to back up their claims of private ownership of the beach. Most ominously, in 1995 they began to pressure the Town of Marshfield (the "Town") and its police department to commence arresting members of the public for using the beach.

In June of 1996, in response to their demands, the Town Counsel issued an opinion letter to the Marshfield Police authorizing the arrest for criminal trespass of any member of the public who used Old Rexhame Beach or the streets leading to the beach through the Old Rexhame neighborhood. In his letter, the Town Counsel opined that the beach was the private property of the Old Rexhame residents. Significantly, he did not indicate that he had done much research on the title to the property. Following the

issuance of the Town Counsel's opinion, police officers performing details in Old Rexhame began blocking roads leading to the beach and threatening arrest.

A group of area residents formed the Marshfield Beach Rights Coalition during the summer of 1996 to attempt to prevent the complete loss of public rights of access to Old Rexhame Beach. In addition to the coastal access issue, our concerns included that one of the Old Rexhame residents was attempting to sell a section of the beach along with his home, which posed a risk of future building on the dunes. The efforts of the Coalition centered on uncovering the true ownership of the beach through historical and title research and investigating the existence of legal right of ways to the beach.

In October of 1996, the Marshfield Police commenced criminal prosecution of approximately fifteen members of the public who had used Old Rexhame Beach during the previous summer. In November of 1996, the criminal proceedings were placed on hold after the Coalition notified the Town and the Marshfield Police of its preliminary findings that Old Rexhame Beach is actually publicly owned. At that point, still needing to uncover more evidence, the Coalition turned to the Commonwealth's Department of Environmental Management for financial assistance for the project.

II. RESEARCH CONFIRMED PUBLIC OWNERSHIP OF THE BEACH AND RIGHTS OF ACCESS OVER THE ROADS

After receiving a 1997 DEM Coastal Access Small Grant, the Coalition was able to continue with its research, ultimately verifying its preliminary findings of public ownership of the beach. The Coalition's evidence of public ownership includes the fact that Old Rexhame Beach had been set aside as part of a common in 1645 by the Pilgrim fathers who settled Marshfield. In 1692, the Plymouth County Court of General Sessions laid out a county highway running the whole four mile length of the beach in Marshfield, including through Old Rexhame Beach. That highway was never legally discontinued. Old Rexhame Beach served as the sole public landing in the Town for at least two hundred years, and was never legally discontinued as a public landing. In 1832, the Supreme Judicial Court of Massachusetts ruled in the case of Thomas v. Marshfield, 13 Pick. 240, that the beach was publicly owned. In that decision, the court ruled that the beach was a "common, highway and landing place" and that the adjoining landowner had no ownership interest or other private rights in the beach. It is the Coalition's conclusion that because the Town has never conveyed out its ownership interest in the beach, nor have the other public rights in the beach been extinguished, Old Rexhame Beach clearly remains a public beach.

The Coalition's Grant funded research also involved the issue of access over several supposedly "private roads" leading to the beach through the Old Rexhame neighborhood. The Coalition's research confirmed that one of the roads that had been restricted by the police during the summer of 1996, Winslow Street Extension, is an ancient county highway over which the public has had legal rights of access for more than three hundred years.

The Old Rexhame residents had been using as their justification for prohibiting public access over the road the fact that Town Meeting voted in 1957 to abandon Winslow Street Extension as a public road. (The Old Rexhame residents conveniently chose to ignore a 1958 vote rescinding the 1957 vote to abandon.) An important discovery by the Coalition was that this street had been laid out in 1692 as a county highway rather than as a town way. While a town meeting vote can discontinue a town way, town meeting has no jurisdiction over a county highway. In 1957, only the county commissioners had the legal power to discontinue or abandon Winslow Street Extension. Because the county commissioners have never terminated the public status of the road, Winslow Street Extension, which extends down to the high water mark on the beach, remains a road over which the public continues today to have full rights of access.

With respect to other roads in the area that had been closed off during the summer of 1996, we learned through Freedom of Information Act requests that the Town had been using public funds to maintain some of these supposedly private roads. Under a Town By-law adopted in 1981, public maintenance of a private road results in the road being open for public access. Thus, the public has the right to use all of those roads in the Old Rexhame subdivision on which taxpayer funds have been spent since 1981. We determined then that the actions of the Old Rexhame residents, and the Marshfield Police, to blockade these roads and to obstruct access to the publicly owned beach were illegal, and had caused violations of the constitutional and civil rights of those whose access had been obstructed.

III. THE RE-OPENING OF OLD REXHAME BEACH

In addition to using the Grant proceeds to partly fund the legal, historical and title research, the Grant proceeds were used in the advocacy work that followed. The results of the Coalition's research were employed in efforts to reverse the drastic actions taken by the Old Rexhame residents and the Marshfield Police to close off the beach during the summer of 1996. We worked diligently to inform and educate Town officials and the Marshfield Police about the rights of the public to use the beach. This included making countless telephone calls to Town and police

officials, sending numerous letters, preparing memoranda of law, and meeting with a member of the Board of Selectmen. Eventually, Town officials understood that the closing of the beach and roads had resulted in constitutional and civil rights violations and that such an unlawful situation could not continue.

As a result of these efforts, the Town reversed its then current position approving of arrests and criminal prosecution of those who used the beach. We obtained the final withdrawal of the summonses for criminal trespass that had been issued during the Fall. We were able to put a stop to the threats of arrest that the Old Rexhame residents had been making to those who used the beach. We were successful in forcing the Marshfield Police to stop performing private details in the Old Rexhame area. These accomplishments enabled members of the public to utilize Old Rexhame Beach, and several roads leading to the beach through that neighborhood, effective June of 1997. To our great satisfaction, the public used the beach extensively all summer. Newspaper articles covering our findings on the public ownership of the beach were published in the Boston Sunday Globe, the Patriot Ledger and the Marshfield Mariner. Copies of some of those articles are attached as Exhibits C and D.

We intend to continue our work on this project until the issue of the ownership of Old Rexhame Beach is resolved in some final manner and until the public's ability to use the legal right of ways has been firmly re-established. To this end, we have applied for additional assistance from the Coastal Access Legal Services program, and are presently in discussions with a major Boston law firm regarding legal representation through that program. We still have a long way to go on this project, but we are confident of our ultimate success in preserving public rights of access and in protecting the beach from private development.

IV. CONCLUSION

Through our work on this project, we witnessed first hand how easy it is for an unscrupulous few to take over rights of way, and even a whole beach, in an unlawful effort to grab land for themselves out of greed and selfishness. Public rights to the shore can be completely obscured by efforts to mislead and the passage of time. We learned how important it is for people to question, challenge, and in some cases defy, claims that a particular beach is private, or that no rights of way to the shore exist. The lesson of the Old Rexhame project is this: that even where town officials and most townspeople profess to be convinced that a beach is private property, the truth may still lie buried. The key to finding the truth lies in the depth of the research. One must keep digging deeper until the rights in the beach at the time of the very establishment of the Town have been uncovered. By doing so, one may well find that

the public has rights of access to the beach, or even that the beach is still publicly owned.

Our shoreline is a tremendously valuable asset. Unlawful appropriation of a public shoreline by private parties is not at all uncommon. Even just recently, situations similar to the Old Rexhame matter have been uncovered in Wells, Maine and in Plymouth, MA. See Exhibit E. The more time that passes before the true status of a beach is determined, the greater the potential for irreversible damage, such as private building on the beach dunes. The issue of the actual ownership of the so-called private beaches of this Commonwealth should be looked at much more closely. The answers, while often lying back in the 17th century, can be uncovered through hard work and perseverance. That is a small price to pay for the enormous reward of recovering a beach for the enjoyment of all, and thereby helping to preserve that beach, for future generations.

It must be noted that because this project involves a matter which may ultimately have to be resolved through the litigation process, we could not set forth herein many of our specific findings and evidence about the public ownership of Old Rexhame Beach and the rights of public access over the roads leading to the beach. We have included only what is necessary to provide a general overview of the matter. Furthermore, we did not include a discussion of the numerous easements over the streets we found, as those are private rather than public rights. Nor did we include a discussion of alternative claims of ownership of the beach that may be made by those who also hold the easements, as those claims against the Old Rexhame residents belong to individual Marshfield residents rather than to the Coalition.

If you need any further information about this project please do not hesitate to ask us.

Thank you again for all of your cooperation and assistance.

Sincerely yours,

MARSHFIELD BEACH RIGHTS
COALITION, INC.

by: Marianne McCabe
Marianne McCabe
President

Boston Sunday Globe

JULY 6, 1997

Town shifts position in beach dispute

By Alexander Reid
GLOBE STAFF

MARSHFIELD - Claiming owners' rights, Olde Rexhame residents last summer declared a nearby beach off-limits to outsiders and hired police details to patrol their exclusive stretch of surf and sand.

Today, the landscape is different.

The police details have been suspended, trespassing charges have been dropped, and Marshfield officials are set to review evidence that Rexhame Beach

New evidence suggests Rexhame may be public

is public, not private.

Marshfield's town counsel, Robert L. Marzelli, who last year ruled that Olde Rexhame's affluent homeowners possessed exclusive rights to the beach, withdrew that decision last month.

"It's a new ballgame," said Marzelli of his decision to lift his earlier finding.

"There's evidence that indicates everybody has the right to use Rexhame Beach as well as the people

who live in Olde Rexhame," he continued. "Some of the evidence is hundreds of years old and dates back to the Colonial days. It suggests that the beach, which we always thought of as private, might be public property and always has been public property."

The beach, a scenic 500 yards adorned by grass-covered sand dunes, runs along the oceanfront between Circuit Avenue North and Rexhame Road. Olde Rexhame residents maintained that the beach was owned up to the high-water mark by several private trusts.

The community of stately, Victorian homes also

ACCESS, Page 4

Town shifts position in beach dispute

■ ACCESS
Continued from Page 1

claimed exclusive rights to several beach access roads, a claim that is also being challenged.

At the same time, residents of the larger Rexhame neighborhood contended that they also had rightful access to the beach. Some asserted that beach access was granted through their property deeds.

For many years, the issue went unresolved, and the two groups used the beach without incident. Last year police patrols were hired by the waterfront residents, and the conflict became bitter.

Among other things, Olde Rexhame residents complained that outsiders were trashing the beach and disrupting their neighborhood with rowdy behavior.

Marzelli issued an opinion, based on Old Rexhame land titles, that validated their claims and cleared the way for the police patrols. About 20 complaints for criminal trespassing were handed out.

The police patrols stoked resentments.

"For those people living close to the beach to hire police to run people off the beach and hand out summonses seemed really extreme," said Marianne McCabe, a Marshfield resident who has emerged as a leader of those fighting for public access to the beach.

"We think they were usurping the public's right to that beach," McCabe continued. "It's extremely arrogant."

McCabe and others formed the Marshfield Beach Rights Coalition, which incorporated as a nonprofit group in January.

They then applied for and received a \$3,000 Coastal Access grant from the state Department of Environmental Management to help finance an historical research project on Rexhame Beach to prove their contention that it was public property.

**'Going to the beach
should be an enjoyable
experience. We were
never comfortable
handing out summonses
for trespassing.'**

WILLIAM P. SULLIVAN JR., *Marshfield
police chief*

Among its sources were the Plymouth County Registry of Deeds, the Mayflower Descendants Library in Plymouth, the Plymouth Town Library, and archives kept by various other historical agencies and organizations.

Much of the information they uncovered dates to the Colonial era.

According to McCabe's research, Rexhame Beach was set aside as a public common and pasture land in 1645. In 1692, the General Court of Plymouth laid out a highway that ran along the length of Marshfield's shore, including Rexhame Beach.

In addition, the state Supreme Judicial Court ruled that the beach had been a "common, highway and landing place" in an 1832 land dispute case between the town and a private landowner who claimed to own the beach.

"We've found substantial documentation that the beach was and always has been public," said McCabe, who said the information was passed on to Marzelli.

"What Olde Rexhame people have done is seize ownership of public property as their own, which is illegal," she said. "Their arguments are

invalid. The documents we've seen predate their trusts."

The validity of the beach rights group's claim would have wide ramifications since it would open Rexhame Beach to use by the general public as well as those in the neighborhood.

Freya Allen Shoffner, an Old Rexhame homeowner and the attorney representing the trustee association, said her group will not withdraw its beach claims.

"Absolutely not," said Shoffner, who also said her group will discuss the issue during a meeting later this month.

"We'll discuss these new developments, but our goal is to maintain our property rights," said Shoffner who also said, "we believe we have exclusive rights to it and we'll work to protect those rights."

In the meantime, Marshfield Police Chief William P. Sullivan Jr. said the trespassing charges brought last summer are being withdrawn. "Going to the beach should be an enjoyable experience. We were never comfortable handing out summonses for trespassing," he said.

Marzelli said he would schedule a meeting with McCabe to further study what she has uncovered.

He said he then would convene a meeting between the two sides later this month, perhaps to broker a resolution.

Eventually, the town may be forced to launch its own investigation to conclusively determine whether the beach is public or private. In the meantime, the question of property rights is up in the air, he said. Right now there are no prohibitions on who can use Rexhame Beach.

"Until we investigate this, we're taking no position on who can or cannot use the beach," said Marzelli. "We'll depend on everybody to get along out there until we get this resolved. It could take months."

The Patriot Ledger, Tues., Sept. 2, 1997

Residents say records prove beach is public

Challenge new deeds for Old Rexhame

By Bill Archambeault
The Patriot Ledger

MARSHFIELD — A residents group fighting for access to Old Rexhame Beach says it has proof the beach is public.

Marianne McCabe, a Rexhame resident and attorney, is president of the nonprofit Marshfield Beach Rights Coalition, which is trying to gain beach access. She has been leading the fight by researching files at the registry of deeds, state archives, state judicial archives, and town hall. Some records date back to the 1600s.

She said the research, aided by a \$3,000 grant from the state Department of Environmental Management's Coastal Access Small Grants Program, has turned up evidence that the beach is public.

McCabe said her research shows the beach was set aside as a public

Marshfield

area in 1645. In 1829, Rexhame Beach resident Briggs Thomas tried to claim rights to the beach. Although a court ruled the beach was publicly owned, Thomas' great-grandson, Ray Thomas Ames, sold deeds that included beachfront property, McCabe said.

"We believe the deeds Ray Thomas Ames gave out were invalid," McCabe said.

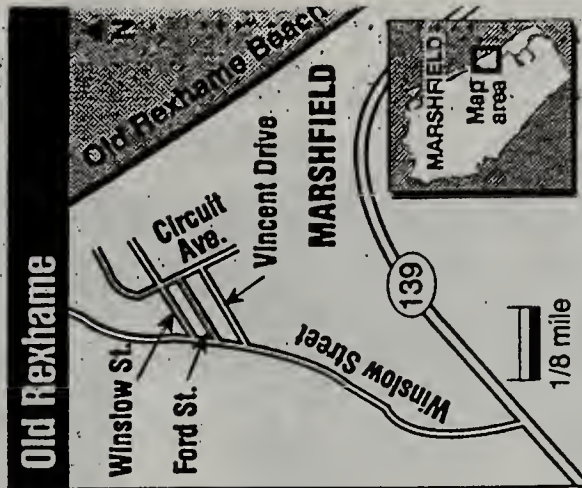
The neighborhood dispute over access to the 1,700-foot-long beach has been ongoing for years. But matters escalated last year when beach residents living east of Circuit Avenue hired police details to guard what they claim are private roads, to keep other people out.

For years, residents on Ford and Winslow streets and Vincent Drive,



Fred Field/The Patriot Ledger

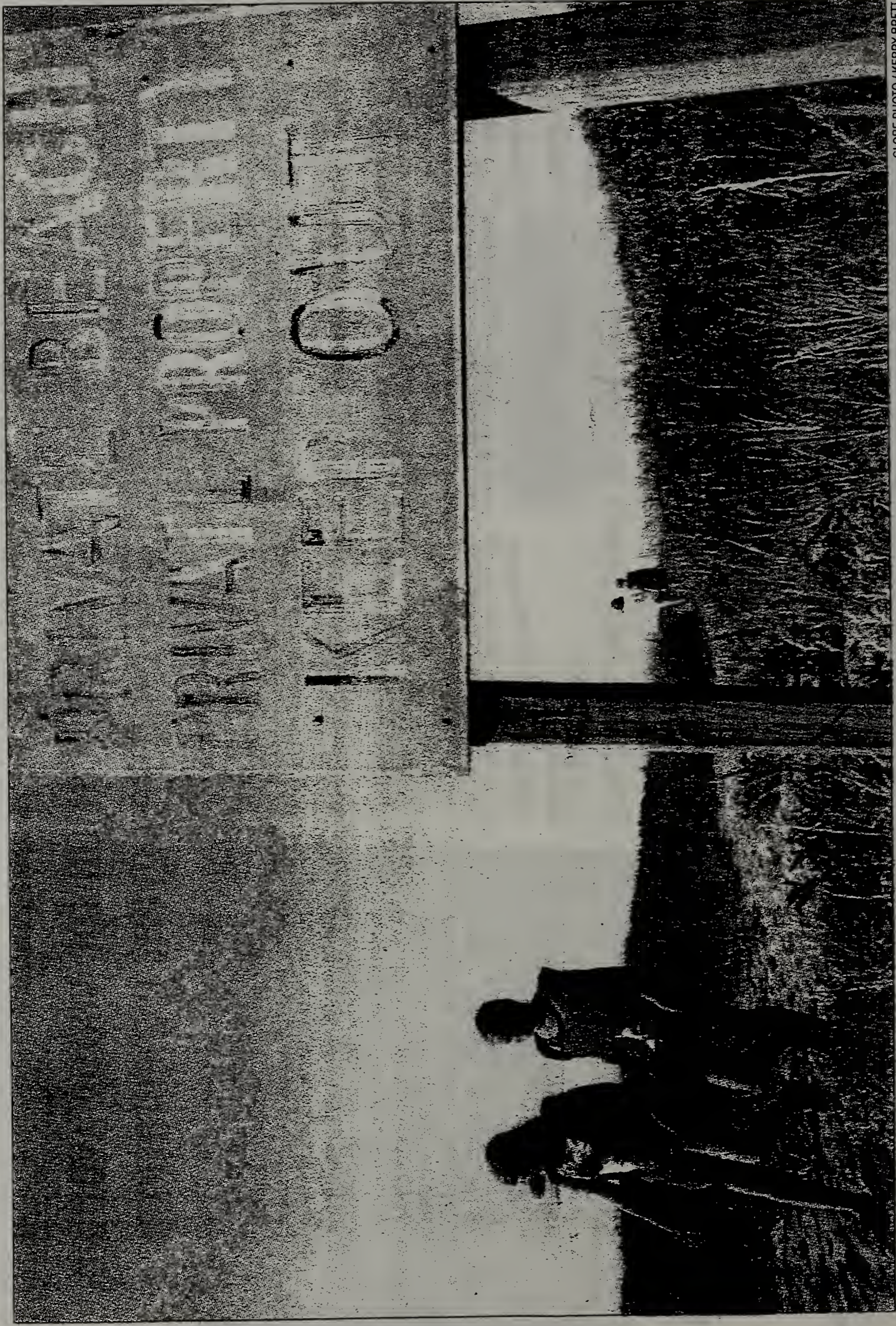
George Johnson of the Old Rexhame section of Marshfield stands in front of a sign barring residents on his side of Circuit Avenue from using the beach.



The Patriot Ledger

a 1940s subdivision west of Circuit Avenue, used Circuit Avenue to reach the beach. But last summer officers took the names of people who crossed Circuit Avenue and charged

Please see REXHAME — Page 1



GLOBE PHOTO / KERRY BRETT

Olde Rexhame residents erected a sign near Kent Avenue in Marshfield declaring part of Rexhame Beach private property; that contention is disputed.

1997 Wedding Planner — Special Section Inside

YORK COUNTY COAST STAR

An independent voice for York County since 1878



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WEDNESDAY, FEBRUARY 5, 1997

SIX SECTIONS/68 PAGES

SEVENTY-FIVE CENTS

KENNEBUNK - KENNEBUNKPORT - WELLS - OGUNQUIT - YORK - KITTERY

'Wells Beach is a public beach. We will continue to maintain it. We will continue to put lifeguards on it, and we will continue to enjoy it.'

Robert Foley
Chairman, board of selectmen

• Title search concludes that Wells never relinquished ownership.

By Jason Ouellette

Star writer

WELLS — During the past few months, town officials had little to smile about when discussing the ownership controversy involving Wells Beach.

But those same town officials had reason to smile Tuesday afternoon as they released the results of a title

search of the beach conducted by town attorneys.

'Wells Beach is, as it has always been, the property of the town of Wells,' said Robert Foley, chairman of the board of selectmen, during a press conference at Wells Town Hall Tuesday afternoon. 'Wells Beach is a public beach. We will continue to maintain it. We will continue to put

lifeguards on it, and we will continue to enjoy it.'

At a December special town meeting, residents approved spending up to \$9,500 to conduct a title search of Wells Beach.

Town officials deemed the title search necessary after Joseph Carleton Jr., a local real estate attorney, concluded in a report issued last summer that Wells Beach might be owned by a family from North Berwick.

In his report, Carleton researched

as far back as 1892 when the state sold a release deed of Wells Beach to a group known as the Wells Beach Improvement Company for \$20.

Over the years the company sold sections of the beach, but did not convey ownership of the beach property in front of the lots to the new owners.

Lisle, Donald and Priscilla Jane Eaton, the heirs of the Wells Beach Improvement Co., began marketing

See Beach, page 8A

EXHIBIT E

Marshfield group says records show Old Rexhame Beach public

■ REXHAME

Continued from Page 13

them with trespassing.

"They consider folks on this side of Circuit Avenue riff-raff," Johnson said. "Even though there had been police details here for years, that was the first time there was any real threat of arrest. That got everybody really upset."

Police last summer were planning to charge 15 people with trespassing, but the charges were dropped when McCabe and others in the Marshfield Beach Rights Coalition challenged beach residents' claim that the beach and access roads are private.

Town Counsel Robert Marzelli advised Police Chief William Sullivan in May to provide no more police details at the beach while the access issue is in dispute.

Residents who support public access to the beach said removing the police details resulted in a more peaceful summer. "People feel much more comfortable, much more relaxed," Johnson said. "The mood is so much different. People are enjoying the beach like they should. Things have quieted down because they know there's been an organized opposition to their claims."

But the issues of who can use the beach and which roads they can use to reach it remain unresolved.

Freya Allen Shoffner, trustee of the Rexhame Terrace Land Trust and Rexhame Beach Preservation Trust, maintains that the roads and property east of Circuit Avenue are private and disputes McCabe's claims.

"Their point of view is interesting," Shoffner said, "But I think it's groundless. I'm well aware of what she has (researched). She's certainly done her homework."

McCabe disagrees that some of the roads east of Circuit Avenue are private. She said Winslow Street and Winslow Street extension, an ancient highway in Plymouth County, were never abandoned by the county and are still public roads.

Raleigh Road has been considered a private road, but McCabe said that since people living there have had the town's highway department repair the road — including completely repaving it in 1990 — it loses its status as a private way closed to public use.

Finally, McCabe said, Ames Avenue is listed as a private way open to public use in the town's street list.

Shoffner declined to discuss McCabe's arguments or the situation in any detail, saying she didn't want to argue her case in the press. She did say she is compiling information and will provide it to Marzelli for review.

Marzelli said he had asked Shoffner and McCabe to present him with any evidence they had found to support their claims, but neither has yet done so, and there is no telling when or how the dispute will be resolved. If neither side cooperates or takes the other to court, Marzelli said, he will be forced to hire a title examiner to research access rights.

"Both sides have to come to an agreement as to what the state of the (property) title is, and we're a long way away from that," McCabe said.



Residents who say Old Rexhame Beach is not private, and who now may have documents to prove it, stand next to a "no trespassing" sign on the beach.

Fred Field/The Patriot Ledger

Beach

Continued from 1A

the beach last summer once they had learned of Carleton's report.

In December, a North Berwick realtor sold two parcels of the beach on behalf of the Eatons. The lots, 53 and 50 feet in width, were sold at \$550 per running foot.

Concerned that public access could be limited to the beach if any additional lots were sold, town officials sought the title search.

Wesley Crowell, a real estate attorney with Bernstein, Shur, Sawyer and Nelson, researched ownership of the beach back to the 1600s when Maine was still part of Massachusetts.

Crowell determined that the Wells Beach Improvement Co. acquired land up to the beach from two sources: the Hatch family and the Littlefield family.

The release deed from the state just confirmed that the Wells Beach Improvement Co. owned what the Hatch and Littlefield families had owned, Foley said.

Crowell further determined that ownership of the beach was never conveyed to the state, the Hatch family or the Littlefield family from the town.

Therefore, the Wells Beach Improvement Co. only owned land up to the sea wall and not the beach, Crowell said.

"We find no conveyance of the beach by the town of Wells," Crowell said. "None of the conveyance goes past the sea wall."

"[The Wells Beach Improvement Company] bought something the state never had the right to own," Foley added. "The beach was important to the town in the 1600s, and it's important to the town in 1997."

According to the town title search, the Eatons don't own any property at or along Wells Beach.

Robert Nadeau, a real estate attorney, was hired by the Eatons to conduct a title search of the beach. Nadeau's title search only went as far back as the Wells Beach Improvement Co.'s purchase of the release deed from the state.

"Quite honestly, Bob [Nadeau] just reaffirmed Joe Carleton's report," said town manager Jonathan Carter.

The Eatons, Nadeau and Manley Gove, the realtor who was marketing

the beach property, did not attend Tuesday's press conference.

"Hopefully this will end it," Foley said waving the title search, bound in a blue binder roughly 2 inches thick.

Gove, when reached at home Tuesday night, stands by claims that Eatons own the majority of Wells Beach.

"While the town has been doing its research, we've been doing our own research," Gove said. "Not only does our research show the Eatons own Wells Beach, but a large portion of the intertidal zone near Wells Harbor."

Gove preferred not to comment further on the town's title search or if the Eatons would challenge it in court.

"We'll have an attorney look into that," he said.

Town officials are expecting that the Eatons will challenge the result of the town's title search, but Foley feels strongly that the town's title search will hold up against any challenges.

"We have a defensible document that assures our rights and interest to the beach," Foley said.

Crowell's research, which examined Colonial town records, documents from the York County Registry of Deeds, and documents from the state archives in Maine and Massachusetts, was as much a lesson in Maine's Colonial history as it was in real estate.

"This was something that brought me back to my college and high school history classes," Carter said.

The title search covered more than 300 years of Wells history dating back to 1643 when the town was incorporated under the sovereign rule of King James I of England.

Research also revealed how Thomas Chabinock, acting as the Indian Sagamore of Wells, turned over the land between Kennebunk and Ogunquit to an individual named John Wadleigh in 1649, who later sold the land over to the town.

Crowell said it was not uncommon for early ownership of land in new England to derive from both the King of England and the Indians. But even when both paths of ownership are traced, Crowell said it is clear that the town, once it was deeded ownership of its land, never transferred ownership of Wells Beach to any party.

1997 Coastal Access Grants Program

Project Name: JONES RIVER ACCESS WAYS INVENTORY

Location: Kingston

Grant: \$3,000

Organization: Jones River Watershed Association

Contact Person: Deborah McKie

Address: P.O Box 73
Kingston, MA 02364

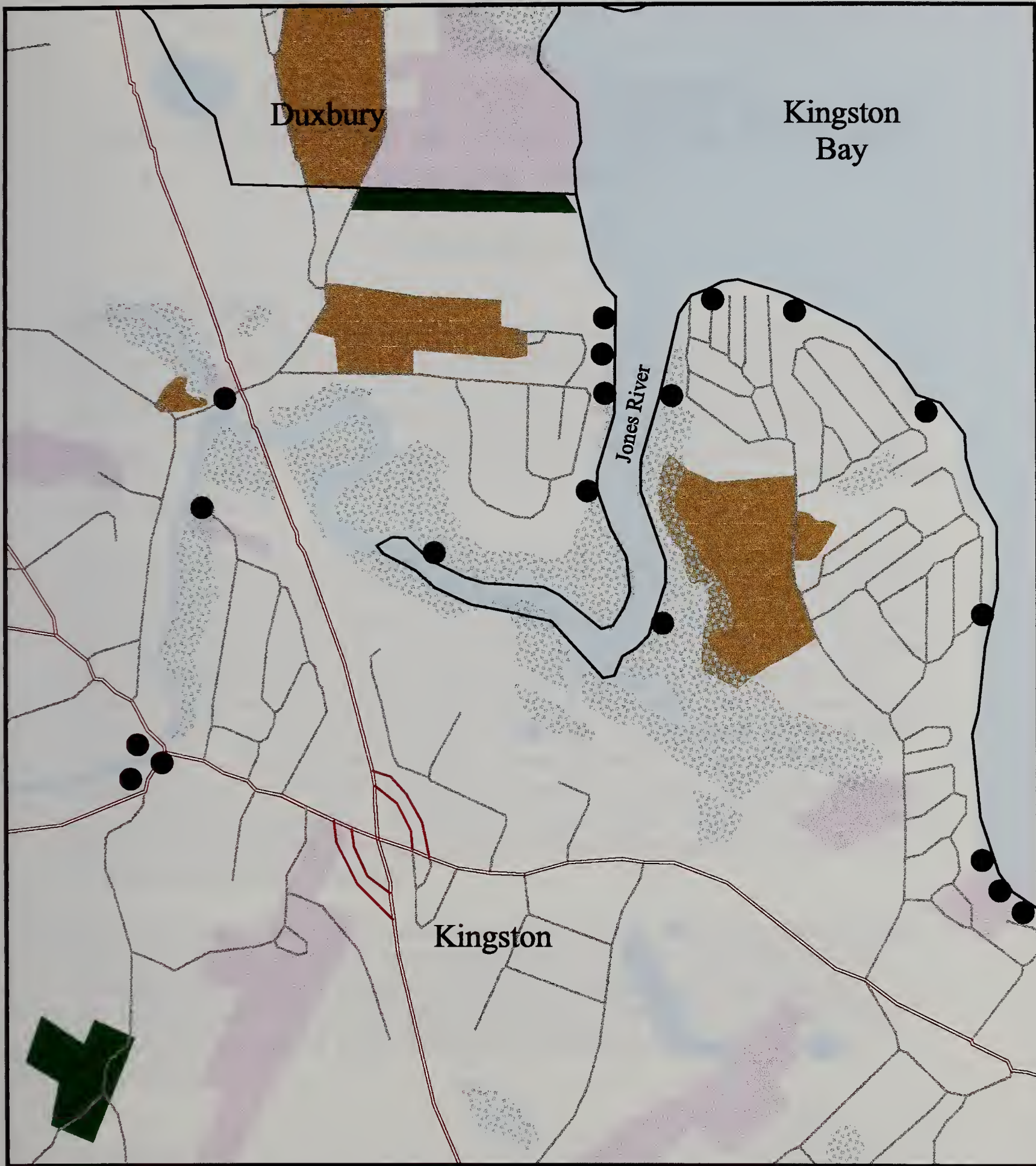
Telephone: (508) 747-7209

Summary:

The Jones River Watershed Association compiled an inventory of all potential public access points to Kingston Bay and the Jones River Estuary. The project expanded on the Town's Open Space Plan by more fully researching public access points and opportunities, as well as installing signs at existing public access points and printing a watershed map with access points indicated. The grant supported staff time and materials for the signs and maps.



Photograph by Deborah McKie



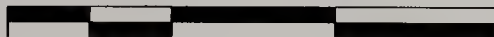
- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Jones River Watershed Association

"Establishment of Public Access Ways"

1997 DEM Coastal Access Grant

800 0 800 1600 Feet



PUBLIC ACCESS POINTS: KINGSTON BAY & JONES RIVER ESTUARY Interim Draft

October 30, 1997

Project Description

The goal of this project was to research coastal access points and obtain information regarding their current ownership. Signage was to be provided at all existing public points of entry. Grant funds also allowed us to identify these access points on a watershed map under development by JRWA. All privately-held points of passage were inventoried and prioritized as to their potential useability. Recommendations were made as to how to proceed with these access points.

Historically there have been many public points of entrance to Kingston Bay and its estuary, the Jones River. Over time, due primarily to development and changing land uses, these access points have been "lost." The Kingston Open Space Plan identified some desirable access points within the estuarian area. The primary goal of this project was to expand on the Plan by fully researching all access points around Kingston Bay and along the Jones River estuary and to develop an inventory of existing and potential public access opportunities. Privately-held points of passage were inventoried and categorized as to their potential future useability. Finally, recreational access was enhanced through the installation of signs where public access currently exists and through the demarking of the access points on a watershed map which will be widely available.

A list of all identified access points is attached at the end of this report as are pictures of the signs which were installed at all public access points. The watershed map (which includes additional information) is still under development and will be available in November 1997. A copy of the final map will be forwarded to the Division of Resource Conservation upon completion.

Next Steps

As can be seen at the end of the list of identified access points, there are several access points which warrant further research and investigation. They are either: 1) questionable as to whether they are truly private, or 2) clearly private property but would serve as an excellent public way which is worth pursuing. For properties that turn out to be clearly privately held, alternate attempts at access, such as easements or land purchases, should be investigated.

Timetable

February - April:	Identified Points of Access
April - May:	Compiled & Researched Points of Access
June:	Made Final Determinations Public v. Private and Warranting Further Investigation
July:	Plotted Access Points on Draft Watershed Map
July:	Researched Other Access Signs
August:	Commissioned Watershed Map which will include Points of Access
August:	Designed Signs for Kingston Bay and Jones River
August:	Commissioned Signs for Public Access Points
November:	Installed Signs indicating public points of access
November:	Press Release Regarding New Signs thanks to DEM Coastal Access Grant
December:	Completion and distribution of watershed map (Identification of access points on the map was included in grant proposal, not completion of map.)

Visual Documentation

Photographs of the access points are included as is a locus map of the area. Pictures of the new signs at each access point will be included in the final report.

Samples of End Products

Copies of press releases and articles in local papers regarding the installation of the signs are attached as are pictures of the signs will be included in the final report. A copy of the watershed map will be forwarded upon completion (scheduled for December 1997).

Comments

This project would not have been implemented without the monetary support of this grant. This grant has enabled our organization to better publicize the great resource areas around Kingston Bay which are available for everyone to enjoy.

During the development of the layout of our access point signs we contacted other communities which had completed similar projects. We would like to recommend that the state create a standardized sign for access points throughout the Commonwealth that will be easily understood and recognized. Whereas any sign is helpful to visitors to the coast, a standardized sign system would be an even greater help and communities would not have to continue to "reinvent the wheel"..

The Coastal Access Grant implementation staff have been very accessible (no pun intended) and helpful throughout this project and they have been very diligent about checking on our progress and offering advice and assistance. We would like to commend them for their dedication and commitment to this endeavor.

Expenditures

ITEM	COST
1. Executive Director's Time: Research; site visits; meetings; compilation; PR; Report Preparation (70 hours @ \$20/hour)	\$1400
2. Signs: Materials Labor	\$857.52 Donated
4. Watershed Map	\$500
5. Publicity	\$300
TOTAL BUDGET	\$3057.52

COASTAL ACCESS POINTS KINGSTON BAY AND JONES RIVER ESTUARY: Descriptions

PUBLIC PROPERTY

Kingston Bay Access

BAY FARM

Map 28, Lots 6&7; Map 37, Lots 10&11

36.84 Acres

Parking

Access by foot

Photos #1 & 2

Off Landing Road. Land is owned by the Town of Kingston and the Commonwealth of Massachusetts and abuts a similar parcel of conservation land in the Town of Duxbury. Wooded and grassy trails wind around the property and down along the shore where there are beautiful views of Duxbury and Kingston Bays and Standish Memorial.

TOWN LANDING

Map 38 Lots 11 and 34

2.60 Acres

Parking

Boat Ramp

Photo #3

The landing is at the end of River Street, on the Jones River, at the mouth of Kingston Bay. Facilities include a pier, boat launch, boat moorings, parking area, pump-out boat, and harbormaster building. The landing is for town residents but the pier receives regional use as a fishing spot.

GRAYS BEACH PARK

Map 59, Lot 51

6.5 Acres

Parking Available

Access by foot

Photos #4, 5, 6

The most obvious coastal access point in Kingston is Gray's Beach on Rocky Nook off Howlands Lane. The resident parking is plentiful with handicapped parking available as well. Facilities include a basketball court, tennis courts and a playground. A bathhouse, trash receptacles, rest rooms and a snack bar are open seasonally.

EAST AVENUE**Map 49****No Parking****Access by foot****Photo #7**

According to original plans, the Town of Kingston owns East Avenue, which extends into the Bay, to the low waterline. The road was accepted by the Selectmen in 1918. There is currently a sign there that states it is for use by Rocky Nook Association members only. Just north of this locations is a long strip of beach that is owned by the association.

END OF DELANO AVENUE**Map 38, Lot 94****<1 Acre.****No Parking****Boat Ramp****Photo #8**

This town-owned boat ramp to the Jones River at mouth of Kingston Bay on Rocky Nook is not in very good condition. There is some beach area here surrounded mostly by salt marsh. The end of the road is just north of a small parcel of town owned land. The two together are <1 acre.

END OF HOLMES AVENUE**Map 38, Lot 137****<1 Acres.****No Parking****Access by foot****Photo #9**

This land is town-owned and provides access to a small beach area, however, due to very limited parking area, it is mostly utilized by the residents that live within walking distance of the access point.

END OF ATWOOD STREET**Map 38****No Parking****Access by foot (currently very difficult)****Photo #10**

The Kingston Selectmen accepted this road to the low water line in March 1950. This is currently overgrown and not usable as an access point. There is probably room for a future boat ramp which would lead to the mouth of the river opposite from the Town Landing.

END OF DREW AVENUE**Map 38****No Parking****Access by foot****Photo #11**

Town of Kingston owns to the concrete bound. Laid out by Selectmen 10/25/89. Access to a very small beach area (approximately 50 feet wide, the width of the road) with private property owners on either side.

SHORE DRIVE RAMP

Map 39 Between Lots 2 & 3

Very limited Parking

Boat Ramp

Photo #12

50 foot way off of Shore Drive which is a public way. No deeds for this property can be located and no taxes are being paid on them. 50 foot way off Shore Drive, across from Leigh Road. Contains old, paved boat ramp that does not extend to the high tide line. Not posted. Contains drainage system maintained by the Town.

Jones River Access

END OF RIVERSIDE DRIVE

Map 47

Limited Parking

Access by foot (currently difficult)

Photo #13

Town accepted roadway that extends into Jones River. Area is currently overgrown. According to long-time residents a small boat ramp used to be located here. This would be an excellent location for a ramp for small boats. There is room for some parking, the land gently slopes to the river at this location so extensive grading would not be necessary to install a ramp. It is a good location along the river since there is good boating available both up- and down-stream from this spot.

SAMPSON PARK & FAUNCE MEMORIAL PARK

Map 45/Lot 119 & Map 55/Lot 6

152.5 Acres

Parking

Access by small boat

Photos #14, 15

On Elm Street, adjacent to the Jones River. The park is under the control of the Conservation Commission who maintains the small parking area and the trails which are used for passive recreation. This access point for small boats is just upstream of the Elm Street Dam and used as a portage location for through-river paddlers. Sampson Pond is also an excellent location for canoeing and kayaking for those who are not traversing the entire river.

WATER DEPARTMENT PROPERTY - ELM STREET

Map 46, Lot 23

<1 Acre.

Parking

Access by small boat difficult

Photo #16

There are limited parking spaces at the Water Department building. A small boat, such as a canoe or kayak, could be placed in the water at this location. This is of particular concern for those who are paddling the length of the river and have to portage around the dam that is just upstream of this location.

QUASI-PRIVATE PROPERTY

Kingston Bay Access

THE NOOK PROPERTY

Map 48, Lot 13

17.7 Acres

Limited Parking

Access by foot

Photos #17, 18, 19

This parcel of land donated to the Wildlands Trust of Southeastern Massachusetts by Mary Hathaway is located on the western side of Rocky Nook. Access is by foot only, with parking available along Howlands Lane. Many paths run through the property which includes pine and red cedar groves, wild geraniums, blueberry thickets, box turtles, and a small pond. The western side of the property borders the Jones River estuary just before the mouth of the river. An easy walk will result in an expansive view of the salt marsh meadow and the tidal creek can be observed from the property.

ACCESS TO BE INVESTIGATED

BOUNDARY STREET

Map 68 Lot 59

2.2 Acres

Boat Ramp

Photos #20, 21

Owner: Cordage Park, Building 3

RFD II, Washing Road Association

c/o Whittier Partners Management

Plymouth, MA 02360

This lot, on the Plymouth/Kingston line, offers a fantastic view of the south side of Kingston Bay and Plymouth Harbor. There is an established boat ramp that would require some work. This parcel is not without major problems. The drainage outfall that is located on the parcel has been classified as a pollution source. There is storage of lobster pots and debris on the property. Safety issues would have to be addressed. The owner may be willing to negotiate an easement in exchange for assistance in addressing stormwater treatment.

OFF HILLCREST ROAD

Map 56, Lot 27

<1 Acre

No photo

Shown on February 17, 1993 plan as "Landing Lot Easement" between Lots 5 and 6. Deed Book 14354, Page 086 dated 5/10/96 indicates a "landing lot for the use of lot owners." There is currently no ramp or clear access from this lot to the estuary so upgrades would be necessary. Local residents may be willing to grant a general easement to this lot to be used as a ramp to the Jones River in exchange for the required upgrades.

WHARF LANE

Map 59 Lot 29

<1 Acre

No Parking

Access by foot

Photo #22

Owners: Unknown

Small parcel of land on either side of eastern end (bay side) of Wharf Lane. This is probably not worth pursuing at this time.

END OF CEDAR STREET

Map 38

<1 Acre

No Parking

Access by foot (very difficult)

Photo #23

Current assessor's map shows this road continuing on the other side of Grandview Avenue and into the bay and do not assign a lot number for the parcel. Highway Department official stated that the house that formerly stood at this location was demolished by the town and the town took possession of the property although that is not clear from current assessor's maps. Part of Cedar Street has been accepted as a public way, but this end has never been accepted by the Town of Kingston. This is probably not worth pursuing at this time since the road is private, the drop off to the Bay is very steep at this location, and this spot it is flanked by two other access points (End of Atwood and End of Delano).

SHORE DRIVE BEACH -- Residents consider this properties to be private property for use solely by the Kingston Shores Association but all plans indicate it to be a 50 foot way off of Shore Drive, which is a public way. No deeds for the property can be located and no taxes are being paid. This should be investigated further to determine if the local residents do in fact have sole access to the bay at these locations.

Map 38, Between Lots 225 & 226

No Parking

Access by foot

Photo #24, 25

50 foot way off Shore Drive with grassy, treed area near road and a steep stairway leading to a small beach. Currently posted as a private beach.

BOTH ENDS OF ARROW STREET

Map 37 & Map 38

No parking

Access by foot

Photos #26, 27

A town accepted "paper" roadway extends to the Jones River on both ends of the street. A plan of the road dated 1952 indicates a landing on the east end of the street at the mouth of the river just above the Town Landing. A garage is currently sitting on the location of this proposed landing. The western portion of the street between Loring Road and Jones River Drive (which extends on assessors maps into the Jones River downstream of Landing Marine) is not easily identifiable in the field as it has been "overtaken" by several home lots. This is worth investigating as it could be utilized by local residents as a nice walking access point to the river.

1997 Coastal Access Grants Program

Project Name: SANDY NECK INTERPRETIVE INITIATIVE

Location: Barnstable

Grant: \$3,000

Organization: Town of Barnstable

Contact Person: Steven Tucker

Address: 141 Bassett Lane
Hyannis, MA 02601

Telephone: (508) 790-6350

Summary:

The Town of Barnstable installed a host of interpretive signs along the established trails within the Sandy Neck Barrier Beach Reservation. The signs used 6 x 6 "Trex" recycled plastic lumber posts, marine grade plywood, and laminated, easily replaceable interpretive sheets that provide information about the ecology and management issues of Sandy Neck. In addition, a roofed signboard was purchased and installed at the trailhead. The grant supported the purchase of necessary materials.



Photograph by John Lopez

Cape Cod Bay

Sandy Neck

Scorton Creek

Barnstable Harbor

Barnstable

- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Town of Barnstable

"Sandy Neck Interpretive Initiative"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



Our Coastal Access project, the “Sandy Neck Interpretive Initiative”, was designed to address shortcomings in public outreach and information at Barnstable’s premier coastal resource. Staff limitations and a modest budget have cobbled the Sandy Neck Ranger’s efforts to enhance this unique resource with effective low impact interpretive stations and supplementary materials. This shortcoming was frequently mentioned by visiting academicians, school groups, residents and tourists from the U.S. and abroad.

The Rangers saw the Coastal Access Grant program as a vehicle for installing a self guided interpretive tour along preexisting trails through the barrier system. Information on the sign posts was tailored to the perceived interests of people visiting different regions of the beach. For example, the outermost stations incorporate complex ideas and technical terms, while those nearest the public regions are limited to more basic information. This strategy should help to lend a threshold level of understanding to those visitors with a casual interest who stay near heavily utilized areas, while providing more in depth explanations to people with a genuine interest who venture into the “hinterlands”. The majority of the signs are sited near the public areas for maximum exposure.

This project is a component of a larger plan to improve educational opportunities at Sandy Neck without unduly projecting “human presence” into the most scenic and remote regions of the barrier. The sign “stations” are simple and unobtrusive, consisting of a 6x6 recycled timber buried 2.5 feet and extending above grade approximately 3 to 3.5 feet. The information on the signposts is compiled by staff on the departmental computer, with color copies of photo stock where appropriate. The final product is currently laminated to safeguard the material from the elements. When the sheets become weathered or faded, they are simply reprinted and laminated in house and replaced. This provides an additional benefit in that topics discussed can be placed on a “rotation” as staff build archives of interpretive narratives. This will provide for a more pleasant and interesting experience for local residents and frequent visitors to the area.

Despite in-depth research into materials cost and availability for the initial grant application, specific expenditures varied greatly from the projected budget. The Trex brand plastic lumber posts turned out to be special order items, and availability was limited. The price for this product proved volatile and subject to market forces. As a result we changed the quantity of the order and purchased more stock in shorter lengths. Because of the special order, we did not receive the materials until the beginning of the summer when staff’s attention was diverted to other beach operations.

We encountered a similar problem with the “roofed signboard” at the trailhead, which is the most prominent “showpiece” of the project. We originally budgeted for the more costly cedar version of this naturally finished, roofed display case. Unfortunately the price for this item increased as well, and we purchased the cheapest model to absorb some of the expense for the posts.

These two expenditures, along with marine grade plywood to serve as a mounting surface for the informational sheets, effectively put us over the budgeted amount for the entire project. Expenses for associated tools, hardware and materials were absorbed out of Sandy Neck's departmental budget. We were forced to forego the installation of a mid-trail bench and rest station for children and the elderly on the shortest loop of the trail. We were fortunate in that the Recreation Department purchased an industrial laminator for a different endeavor. As a result, we were able to arrange the use of laminated texts at the stations rather than mounting the sheets under Plexiglas or lexan.

The next phase of the project will involve "picking up" the locations of the interpretive stations with the town's own G.I.S. equipment, and printing a suitable map for the roofed signboard at the trailhead. Future projects include the design and installation of a large signs depicting the geomorphologic development of Sandy Neck and concurrent human uses at different epochs along this continuum. Other outreach initiatives which stress the environments manipulation of Sandy Neck as a model for the broader system of Cape Cod and the Gulf of Maine are planned. The Sandy Neck administration will be actively promoting this self guided trip to publications targeting visitors to Cape Cod, and for school field trips. Recent stories in local newspapers and Sandy Neck's inclusion in trail guides has increased visitation in recent months, and we will be looking for opportunities to capitalize on future listings.

The Coastal Access Grant as administered by the Department of Environmental Management offers a significant opportunity for municipalities and special interest groups to enter into a productive partnership and to make use of capital which would not otherwise be available. The Department of Environmental Management deserves recognition for keeping the application process simple and straightforward, and for the level of recognition and support that it extends toward grant recipients.

Despite these difficulties in obtaining materials and the funding shortfall, the "Sandy Neck Interpretive Initiative" has proven to be a significant and visible site enhancement that complements the natural environment. As a result of this project, the public is more aware of our efforts to share this resource with casual visitors, academicians, school groups and other interested members of the community. This modest project will help to legitimate additional outreach efforts, supports and explains some of our resource management concerns, and serves as a sound foundation for future projects.

1997 Coastal Access Grants Program

Project Name: MOBILE AUDIO INTERPRETIVE PROGRAM

Location: Barnstable

Grant: \$3,000

Organization: Cape Cod Cooperative Extension

Contact Person: Eileen Sonnenburg

Address: P.O. Box 367, Deeds & Probate Bldg.
Barnstable, MA 02630

Telephone: (508) 362-2511 x585

Summary:

The Cape Cod Extension Service developed a mobile audio interpretive tape focusing on the coastal ecosystems of the Sandy Neck/Barnstable Harbor ACEC. The tape is intended to educate both off-road-vehicle users and pedestrians about the function and importance of protecting coastal environments. The program addresses coastal geology, ecology, habitats, history, and recreational use of the barrier beach. The program is available as a loan package from local libraries, the Chamber of Commerce, and the Sandy Neck Gatehouse. The grant supported staff time, purchase of cassette recorders and other supplies, and printing and copying of written materials.



Photograph by John Lopez

Cape Cod Bay

Oversand Vehicle Access

Beach Trail

Marsh Trail

● Sandy Neck

Scorton Creek

Barnstable Harbor

Barnstable

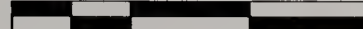


- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Cape Cod Cooperative Extension "Mobile Audio Interpretive Program"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



1. PROJECT DESCRIPTION: Sandy Neck Audio Interpretive Tour

This mobile, audio interpretive program was designed to promote coastal access and coastal habitat protection. The Cape Cod Cooperative Extension, with assistance from the Barnstable Recreation Department, developed an audio presentation to provide citizens and visitors with "on location" interpretive information, as they access (ORV or walk) the beaches and tidal flats of the Sandy Neck Barrier Beach System Area of Critical Environmental Concern (ACEC). The program will purchase sufficient audio equipment, with a cassette tape produced that will be available in a loan package from local libraries, the chamber of Commerce and Sandy Neck Gatehouse. The package provides directions to Sandy Neck Beach in West Barnstable, the starting point of the exploration. The loan materials contain an audio tape, simple map, a tide chart, "Beachcomber's Guide to Cape Cod Seashores" pamphlet and a brochure about ticks and Lyme disease.

The Sandy Neck/Barnstable Harbor ACEC includes 8,850 acres including Sandy Neck barrier beach, Scorton Harbor and Creek, Barnstable Harbor, surrounding saltmarsh and uplands to the 10.5 foot elevation above mean sea level. With the exception of the Cape Cod National Seashore, this is the largest barrier beach complex between Rhode Island and Cape Ann. Thousands of acres of productive salt marsh backing the barrier beach support substantial shellfish beds. The beaches, dunes, and saltmarshes also provide protection against storms for the low-lying inland areas. Much of the area is protected open space.

All of the resources of Sandy Neck are of an extremely high quality. Wildlife abounds within the marsh, dunes and beach. Sightings of almost 300 species of birds have been noted. Over 160 species of vascular plants, including 85 species of wildflowers, have been recorded. The marsh and adjacent dunes are feeding and nesting areas for the endangered diamond-backed terrapin. Several other rare, threatened or endangered species also reside here.

By using the portable audio player, the ORV enthusiast or walker will be led along by the interpretive cassette tape narration on their exploration of the resources of the Sandy Neck Barrier Beach System ACEC. The presentation will also focus on the importance of citizen's access to and education about coastal habitats. The participant will learn about the many walking trails and unique coastal ecosystems. Also included will be an explanation of the significance of the ACEC designations, which will foster cooperation and mutual respect of the various users, including environmental groups, fishermen and recreational beach users.

2. FUTURE PLANS

The goal of this project is to provide visitors to Sandy Neck with interpretation about the coastal geology and ecology, wildlife habitats, historical values and recreational use of the Sandy Neck Barrier Beach System. The only maintenance required is to replace any portable tape players or cassettes as needed, and update any enclosed information such as the tide charts. Short term evaluation will be accomplished by a brief survey contained in the package. A final evaluation will be conducted through interviews with those involved in the project, total number of loan packages checked out, and anecdotal statements from citizens and visitors alike. Evaluations will also be used to assess the need for similar projects in other areas of Cape Cod.

3. TIMETABLE

Planning meeting with Cape Cod Cooperative Extension and Sandy Neck (Barnstable Recreation Dept.) staff	March 1997
Work initiated on text for audio tape - includes research at local libraries, walk and photograph the various trails at Sandy Neck, tour Sandy Neck vehicle trails with ranger, and actual writing of text	July-August 1997
Finalize the script, hold recording sessions, purchase portable tape players, prepare map which accompanies tape, prepare interpretive package for distribution	September 1997
Packages distributed to check-out areas for the fall season	October 1997

SANDY NECK AUDIO TOUR

Welcome to the audio interpretive tour of the Sandy Neck ecosystem, an Area of Critical Environmental Concern. This tape is made possible through a Coastal Access Grant awarded by the Massachusetts Department of Environmental Management to the Cape Cod Cooperative Extension, with assistance provided by the Barnstable Recreation Department. This project is designed to educate people about the importance of public access to our coast and protection of coastal resources. The tape provides an overview of the Sandy Neck ecosystem as observed from the vehicle trails, providing an audio guide for ORV (off-road vehicle) operators and walkers. The trail 1 loop provides a comfortable walking distance.

My name is Bob Seay and I will be your guide as you explore the scenic Sandy Neck area, which was described by Reverend Timothy Dwight in the early 1800's as a "long, lofty, wild and fantastical beach." Your tour begins at the trail access point to the right of Sandy Neck Road just beyond the Gatehouse. As you begin your travel on the access road, a well-vegetated area can be seen on the left. A small freshwater zone exists in the hollow and wild cranberry plants may be found there. When the wind has eroded sand down to the water table, these freshwater pools or dune bogs are formed. During rainy periods, these shallow basins can become filled with water. This unique area serves as a survey site for both American and Fowler's toads. This may seem to be an unusual habitat for amphibians, but the Fowler's toad in particular is found in sandy habitats. Dune bogs also provide important breeding sites for the threatened Eastern spadefoot toad.

The Sandy Neck/Barnstable Harbor ACEC (Area of Critical Environmental Concern) encompasses 8,850 acres and includes Sandy Neck barrier beach, Scorton Harbor and Creek, Barnstable Harbor, the surrounding salt marsh and uplands to the 10.5 foot elevation above mean sea level. Look at your enclosed map to see the entire area and trails. The ACEC designation is a state recognition of areas with unique natural resource values whose protection requires regional and local consideration. With the exception of Cape Cod National Seashore, this is the largest barrier beach complex between Rhode Island and Cape Ann. Thousands of acres of productive salt marsh backing the barrier beach support substantial shellfish beds. The beaches, dunes and salt marshes also provide protection against storms for the low-lying inland areas. Much of the area is protected open space.

Wildlife abounds within the marsh, dunes and beach. Sightings of almost 300 species of birds have been reported, and over 160 species of vascular plants including 85 varieties of wildflowers. The marsh and adjacent dunes further provide feeding and nesting areas for the endangered diamond-backed terrapin. Several other rare, threatened or endangered species may also be found within Sandy Neck.

As you travel along this road, you may notice areas that are roped off. This is for erosion prevention, and serves to protect a vulnerable area from further damage by either vehicles or pedestrians. Dune systems are actually quite fragile, a fact masked by their stark appearance. You can immediately observe the expanse of dunes when you enter here. In fact, the barrier beach/dune area of Sandy Neck extends for 6 1/4 miles, and may vary in width from 200 yards to one half mile. The tallest of these dunes may reach 50-75 feet in height. From the access road, you will notice other areas of vegetation within the dunes. These are more sheltered areas where plants such as bayberry, salt spray rose, and beach plum have taken root. The dense clumps of dark-green shrubs that you see scattered about are bayberry. These woody shrubs can grow to a height of six feet and has fragrant leaves. Beach plum is another common fruiting shrub, growing to at least six feet in height. In June, beach plums are covered by white blossoms with the bluish-purple fruit ripening by late summer. Look carefully and you will see a hardy plant known as dusty miller. It is the low-growing, pale green plant found in clusters along the dunes and seen growing in the island on the access road. This Asian native was only found in gardens up until the 1880's. Through some occurrence it escaped to wild habitats and has established itself on coastal dunes and sandy beaches. Its woolly leaves protect it from the effects of salt spray and intense heat since the sand surface temperature may surpass 120 degrees Fahrenheit on clear summer days!

As you near the beach, you will see fencing placed atop the dune ridge, and at the base of the dune. This is snow fencing which is utilized to help build up the dunes by trapping wind-blown sand. You can see this fencing throughout the beaches of Cape Cod, and they are often replaced due to winter storms and sand burial. **STOP TAPE NOW - restart when you are on the beach.**

Once onto the open beach, you see the foredunes which are the most seaward facing dunes, running parallel to the shoreline. This entire stretch of beach is called a barrier spit, which is a beach attached to mainland at one end while extending out into open water. In this case, Sandy Neck is bordered by Cape Cod Bay and Barnstable Harbor. Looking out to the west, you can see the shoreline of Sandwich and the tall smokestack of the Canal Electric plant. A little further north, you can also see the white cliffs of Manomet which is part of Plymouth County. The eroding shoreline of Manomet contributes much of its sands to Sandy Neck as deposits are carried south and east. So while erosion removes sand from one beach, those lost sands may be deposited at another shoreline. In fact, this depositional process has caused Sandy Neck to continue its eastward growth for at least 3,200 years! The current growth has slowed somewhat due to the construction of jetties farther to the west.

Looking eastward, you see the shoreline of Dennis in the distance. The foredunes are also known as primary dunes since they are newly formed. The tall grasses on the dunes is American beach grass,

and you can see this plant throughout the Sandy Neck dune system. This incredibly hardy grass can survive salt spray and sand burial, but may be damaged by foot traffic. The presence of beach grass on dunes tends to hinder any windblown sand, causing the sand to be deposited in the grass. Since beach grass is not adversely affected by accumulating sand, the dune is built up from windblown sand trapped by the grass leaves. You might say that American beach grass is a natural form of snow fencing. The extensive underground stem system of American beach grass further stabilizes a dune, thus preventing an overwash of storm waves from sweeping over dunes to enter inland areas. Stabilized dunes function as a barrier against such wave action and protect inland areas from flooding. As you continue along the beach, here and there you may see a notch in the dunes. These notches are caused by people walking over the dunes, thereby causing erosion of that particular area. If the notch becomes deep enough, storm wave overwash can occur. Dunes are indeed a fragile environment so visitors should heed instructions about remaining on the trails to prevent further erosion. The protection of primary dunes and associated vegetation is one of the reasons vehicles are restricted to a defined traffic corridor. **STOP TAPE NOW - restart when you reach Trail 1.**

Trail 1 can be explored on foot and it is a short walk leading out to the marsh trail. The avoidance of ticks is further reason to remain on the trails, and a brochure about ticks and Lyme disease is enclosed in this packet. You will pass by secondary, or older dunes which can be well-vegetated. Bayberry bushes can be found growing in this habitat, recognized by its dark green leaves and grayish, waxy berries. Staying on the trail also helps you to avoid another common plant within this area, poison ivy. This remarkably adaptable plant can survive sandy conditions, with its long-running root system contributing toward dune stabilization. Poison ivy is also effective at preventing unwanted foot traffic and is recognized by three triangular leaflets on each stem, which can be green or reddish in color. The whitish berries of poison ivy provide food for songbirds.

Another low-growing plant found within dune habitats is known as Hudsonia. This is a small, shrubby plant with tightly scaled leaves that are pale green in color. It is a stabilizing plant whose dense mats of growth inhibit the movement of sand. Hudsonia is resilient to the effects of sun, wind and salt, and even uses a root toxin to discourage other plants from shading it out. In June its small, yellow flowers decorate the dunes.

Salt spray rose can be found blooming from June through October. Its dark pink or white blossoms and spiny branches make it easy to recognize, the latter providing a formidable barrier. This shrub is another hardy Asian native which thrives in sandy environments. The fleshy, red rose hips not only provide wildlife with food, but are further used for making jams and jellies.

You may also notice young pitch pine trees growing in specific areas where soils have developed enough to support a woodland.

While pitch pine may not be the most aesthetically appealing tree species, it certainly is a hardy one. It can withstand salt spray and wind better than most and can be found growing in impoverished or sandy soils.

Here and there in the dune area you may see sand-colored insects and spiders such as the seaside grasshopper and dune wolf spider, which blend in perfectly with their sandy environment. If you look closely at the sand, you will see a variety of animal tracks.

For interested hikers, the Trail 1 loop which leads out to the marsh and continues west back toward the Gatehouse is a total of 1.6 miles. The trail 2 loop is a longer walk with a total of 4.8 miles. ORV-users are restricted to the front beach, and our interpretation continues there.

As you continue along the beach, you will notice a zonation of this area. That part of the beach affected by the wash of the tides is called foreshore. Tidal cycles consist of two high tides and two low tides each day; due to the influence of the lunar cycle, tidal cycles occur 50 minutes later each day which you can see by looking at your enclosed tide chart. When the sun, moon and earth are in alignment, the combined gravitational pull of the sun and moon create exceptionally high and low tides, or spring tides. They occur at the time of the new and full moons, so twice each month.

On the beach, you will see a band of material washed ashore which is referred to as the tide or wrack line. Here you can find different varieties of seaweeds, various shells, crab molts and other remnants of sea life. Wrack lines were created when retreating waves left behind their deposits. If you decide to explore the beach, take a look at this marine debris. A thin, green seaweed, which has the appearance of cellophane, is called sea lettuce. Another type of green seaweed which looks ropelike, is known as green fleece or Codium. This European native, introduced in 1957, can have a harmful effect upon shellfish such as oysters. Green fleece may attach itself to an oyster's shell, and the weight of the plant can prevent the oyster from being able to open its shell to filter feed.

The most noticeable remains in the wrack line are what appear to be dead crabs. These are actually molts, or the cast off exoskeletons of crabs. An exoskeleton is the entire armor-like body covering which is shed as the animal grows. Molts are often bleached in appearance due to sun exposure. A young crab may molt every few weeks, while adult crabs molt yearly. Looking at the carapace or back of the crab will help you identify different species. You may find the molts of rock crabs, recognized by its oval shape and nine blunt teeth on either side of the eyes. The green crab can be identified by five teeth or notches on either side of the eyes. And the most handsome crab found here, the lady or calico crab, is recognized by five very pointed teeth on either side of the eyes, rings of reddish-purple spots, long claws and its last pair of legs resembling paddles. A wide variety of shells may also be found,

including the elongated bluish-black shells of the blue mussel. This is the well-known edible mussel served at seafood restaurants. The large, rounded shells of moon snails can often be found. These are predatory snails, feeding on clams, mussels and other snails. They are known locally as sweet meat if not overcooked! Frequently you will find only pieces of shells due to the action of waves and erosion.

The other items you can find along this beach are too numerous to be listed here. You can refer to your "Beachcomber's Guide to Cape Cod Seashores" pamphlet enclosed in this packet for further identification of marine life. If you are collecting some shells, remember to take only empty shells, while taking care to leave any live animals where you found them. Be careful if walking around the rocks exposed at low tide, as the rocks are often covered with green thread algae which can be quite slippery. And remember to leave only footprints when walking around any coastal areas. Take some time now to explore the beach....

The wrack line provides food to beach fleas or sandhoppers and a variety of insects which in turn provide food for other beach inhabitants such as shorebirds. The small, sandy-colored piping plover searches the wrack line for its food which includes fly larvae and other insects. This tiny plover is considered a threatened species and is protected under the federal Endangered Species Act. Its current population decline is a result of coastal development and increased recreational use of beaches. These birds have a white breast, dark ring around the base of the neck, and a black band across the forehead. Their camouflaged coloration makes them difficult to see, so beach closures occur in those areas where the plovers nest. Piping plovers return to the Cape to nest by late March or early April. Since plovers nest on the ground, their camouflaged eggs and chicks are also difficult to see, and are vulnerable to being crushed. Nesting may continue through August if the plovers have to renest due to loss of eggs or chicks. Piping plovers depart for their southward migration by early September. It is important to respect any beach closures for the nesting success of the plovers. Walkers should also refrain from approaching the plovers or their nests. Furthermore, by ORV's staying within the defined travel corridor, disturbance of the wrack line will be prevented.

There are other highly visible bird species seen along this beach. The delicate, slender-winged birds that you see hovering and then diving into the water in pursuit of small fish are terns. The pigeon-sized, common tern is white with pale gray wings and back, a black cap, red beak and deeply forked tail. The smaller species with yellow beak and white forehead is the least tern. Unlike the plovers, terns nest in colonies and will fiercely defend their nests. Since both species have declined in number and are of special concern, beach closures may occur in areas where they nest.

Of course, the best known coastal bird is one often referred to as sea gull. There are actually four common species of gulls found

along Sandy Neck. The large herring gull is white with light gray wings and back, yellow beak and pinkish legs. The great black-backed gull is even larger, but with black wings and back. The ring-billed gull resembles a smaller version of the herring gull, but has a narrow, black ring around the beak. Finally, the laughing gull with its unmistakable laughing cry, is white with dark gray wings and back. The smaller laughing gulls also have a dark red beak and legs, and a black head. It is the herring and great black-backed gulls that tend to be aggressive, and will prey on the eggs and chicks of other bird species. All young gulls are brownish in color prior to acquiring their adult plumage.

Further down the beach beyond the Trail 4 access, is believed to have been the old try yards for rendering whale blubber into oil during the eighteenth century. Whale houses were placed upon higher points along the beach where whalers could keep watch for small species such as pilot whales. Whales were brought ashore for butchering and rendering, which took place at the southern side or marsh side of the beach. Initially, whalers relied on drift whales, or stranded whales. In fact, whaling season took place in fall and winter which is the likely time for strandings to occur. Since strandings were sporadic, small boats were later utilized to chase pods of small whales seen in the bay, with any carcasses brought ashore for rendering. No structures of this past activity currently exist. Furthermore, any stranded whales are now assisted by human helpers trained in their rescue. If you should see any whale species or even a seal upon the beach, it is best to contact a ranger. Since these animals are protected by law under the federal Marine Mammal Protection Act, it is strongly recommended that you not closely approach or harass the animal in any way.

Archaeological sites throughout Sandy Neck attest to the presence of early hunter-gatherers as much as 3,000 years ago. These native peoples were presumed to have inhabited the area on a seasonal basis, utilizing the shellfish beds, stranded sea mammals and other natural resources found here. In 1644, Sandy Neck was purchased by the European colonists from the native Americans for three axes and four coats.

If you venture further inland on foot along trail 4 or 5, you will come across wild cranberry bogs which turn a crimson color in autumn. Deacon Braley Jenkins was the first to cultivate cranberries here. By the mid-1800's, nearly 100 cranberry bogs were under cultivation on Sandy Neck and continued until the early 1940's. In 1832, it is estimated that as many as 200 men, women and children assembled in the bogs to pick cranberries. During the height of this industry, houses were built to store cranberries and to shelter the bog workers. Some of these houses were later converted to gunning camps during the early 1900's. And the now wild cranberries tend to be more disease-resistant.

The thick woodlands that you see around trails 4 and 5 are known as maritime forests. These forests develop behind the foredunes, often on the secondary or older dunes where well-developed soils

provide support for a greater variety of plant life. The area also harbors wildlife, including deer. In fact, the blinds that you see here and there off of trails 4 and 5 are primarily used for deer observation and research.

The expansive tidal flats seen at low tide are an important feeding area for shorebirds. The flats are also a critical habitat for shellfish species such as soft-shelled clams. Due to safety reasons and habitat protection, the section of beach east of trail 6, known as Little Neck, is closed to vehicles since tidal action has altered that stretch of beach. Vehicle access down trail 6 is available only to cottage owners with special permits. This "Cottage Colony" was established on Beach Point in the late 1800's for recreational reasons and is still used seasonally. There is no electricity provided to the cottages, so power is supplied by generators. The lighthouse, built in 1857, was decommissioned in 1931 and its light was removed.

No exploration of Sandy Neck would be complete without a walk along the marsh trail. This trail runs parallel to the beach trail, bordering the Great Marshes of Barnstable. Trails 1, 2, 4, or 5 will lead right to this expansive salt marsh, the largest on Cape Cod, which at the present time encompasses 5,300 acres. The "Hay Grounds" as they were called by the colonial settlers, were used for grazing livestock at one point. Cows and horses were often fitted with special shoes which resembled wooden snowshoes to provide them with stability on the soft peat of the marsh.

Another early industry that took place on or near the marsh was the extraction of sea salt for the preservation of fish. Initially, seawater was boiled in large kettles with the evaporated salt scraped from the bottom. As forests were depleted for fuel wood, this technique was replaced by a solar evaporation process invented by John Sears in 1776. Windmills, which dotted the landscape in the early 1800's, were constructed for pumping seawater into a series of vats for evaporation. 350 gallons of seawater were required to obtain one bushel of salt! The salt works, as this industry was called, began to decline by 1840 due in part from increasing competition with imported salts. No structures of this past industry remain.

Looking out at the vast marsh, this entire area is a verdant green in the spring and summer, turning golden by autumn. If you look at your enclosed map, you will see that an estuary, Scorton Creek, meanders through the marsh and out into Barnstable Harbor. What is not seen on the map are the numerous channels that crisscross the marsh. These narrow but straight ditches were dug in the 1930's to control mosquitoes by preventing areas of stagnant water from forming. As a result, the ditches provided additional habitat for the mummichog, a small minnow-like fish which feeds on mosquito larvae.

And speaking of biting insects, probably none is more annoying than the greenhead fly which is a species of horse fly. In summer, the

female greenheads seek blood meals in order to develop their eggs. Fortunately, tree swallows and other birds feed heavily on these flies in summer. In fact, the small bird houses that you see along the edge of the marsh are for nesting tree swallows, a sparrow-sized bird that is metallic blue with white underparts. And those strange blue boxes that you see in the marsh serve as a chemical-free fly control. The boxes entice female greenheads that are seeking shade, but once inside the box, a complex maze of screens makes escape impossible. The only other man-made structures in the marsh are small cottages, built for market gunning of birds in the early 1900's. They now exist as seasonal cottages, and are privately owned. Please respect these properties and avoid trespassing.

The Great Marsh was able to form when the growing barrier beach provided quiet waters favorable for the deposition of sediment. Marsh grasses were then able to take hold and trapped more sediment, while the dunes afforded further protection against any storm overwash and allowed the marsh to increase in size. The spongy soils of the marsh, called peat, can be up to 30 feet thick in certain areas. Decomposing marsh grasses and tangles of roots contribute to the formation of peat, and the marsh continues to grow while keeping pace with the gradually rising sea level. In some areas of the marsh, you will notice pools of water or exposed mud. These are called pannes, and may be areas of poor drainage where accumulated salt levels prevent plant growth.

Looking at the marsh, you can clearly see two kinds of grasses which dominate the marsh vegetation. The tallest species is called saltmarsh cordgrass and can reach six feet in height. Cordgrass grows in the lower portions of the saltmarsh where it is inundated twice daily by high tides. In fact, the location of any channels or ditches in the marsh can be noted by the presence of cordgrass. The shorter, finer grass which often falls over to form cowlicks, is called salt-meadow grass. This latter species is found in the high marsh, so it is only flooded during spring tides. Salt-meadow grass once served as feed and bedding material for livestock, while the thicker cordgrass served as roof thatching.

Other plants are visible along the marsh trail. The reed grass with its feathery plumes stands well over eight feet tall, and can be found at the edges of the marsh. Seaside goldenrod blooms a bright yellow in late summer and is found on the fringes of salt marshes. August is also the time to view the delicate flowers of the sea lavender, which can withstand the salty environment of the marsh. Please do not pick any flowers that you find in Sandy Neck, since these plants should remain here for all visitors to see.

Splashes of color can be seen in autumn throughout the marsh. A fleshy, succulent plant several inches in height called glasswort turns a brilliant red in the fall. Nicknamed sea pickle, it was once pickled and eaten as a salty delicacy.

Some unusual inhabitants here include the salt marsh snail, which

is often referred to as coffee-bean snail due to its tiny size. This little snail feeds on decaying marsh grasses, and will climb the stems of grasses to escape high tide since it is an air breather equipped with lungs rather than gills. A unique turtle found here is the diamond-backed terrapin. They are a brackish water species found within salt marsh estuaries. Terrapins' shells have a sculpted appearance while their pale gray skin is peppered with dark flecks. They are only several inches in length and often feed on snails and worms. They will come to the dunes to lay their eggs in the sand during summer, with hatchlings emerging in October to make the hazardous trek through the dunes to the marsh. Terrapins were once used in gourmet soup with as many as 1500 per day shipped from Cape Cod to Boston in the early 1900's. They were reduced to a remnant population in the Great Marshes, but are now protected. Terrapin research is currently conducted at Sandy Neck.

Salt marshes provide function as a buffer to storm waters, with its spongy layers of peat absorbing excess floodwater to the benefit of neighboring communities. The vast nutrients produced and recycled in marshes rival the most productive agricultural lands. Wildlife species abound here including waterfowl, great blue herons, ospreys and raccoons. Eastern coyotes can now be seen in the Great Marshes hunting for small mammals such as meadow voles. It is also estimated that two-thirds of our commercial fish and shellfish species spend at least part of their lives in salt marshes, including striped bass, flounder and bluefish. Salt marsh vegetation also absorb pollutants, thereby maintaining water quality. What was once considered wasteland is now viewed as a complex ecosystem important to the marine food web, and which inevitably benefits us, either economically, recreationally or aesthetically.

This concludes the Sandy Neck audio tour. We ask that you please complete and return the enclosed survey, providing the Cape Cod Cooperative Extension with important feedback about the tape. Enjoy your visit here, and remember that coastal access and protection benefits all of us.

Text by: Eileen Sonnenberg
Marine Education Specialist
Cape Cod Cooperative Extension

1997 Coastal Access Grants Program

Project Name: HYANNIS WALKWAY TO THE SEA PROJECT

Location: Hyannis, Barnstable

Grant: \$3,000

Organization: Hyannis Area Economic Development Corporation

Contact Person: Ed Lambert

Address: 1481 Route 132
Hyannis, MA 02601

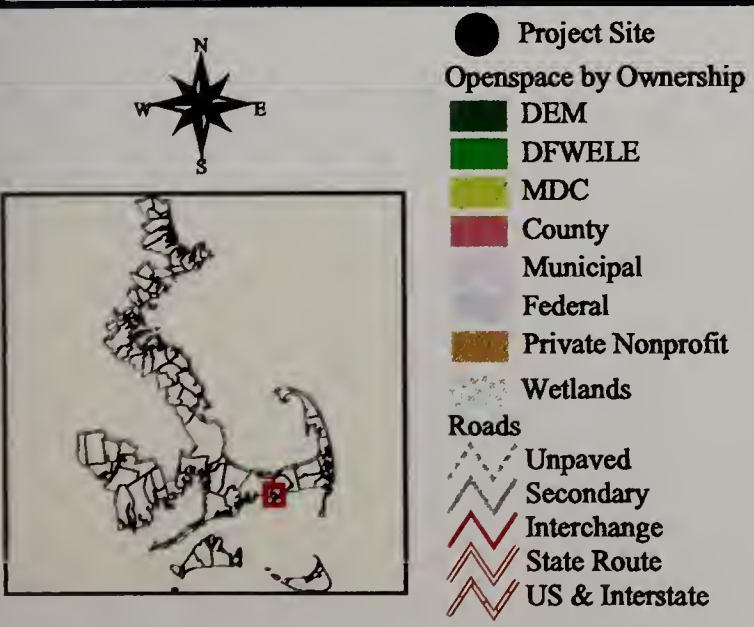
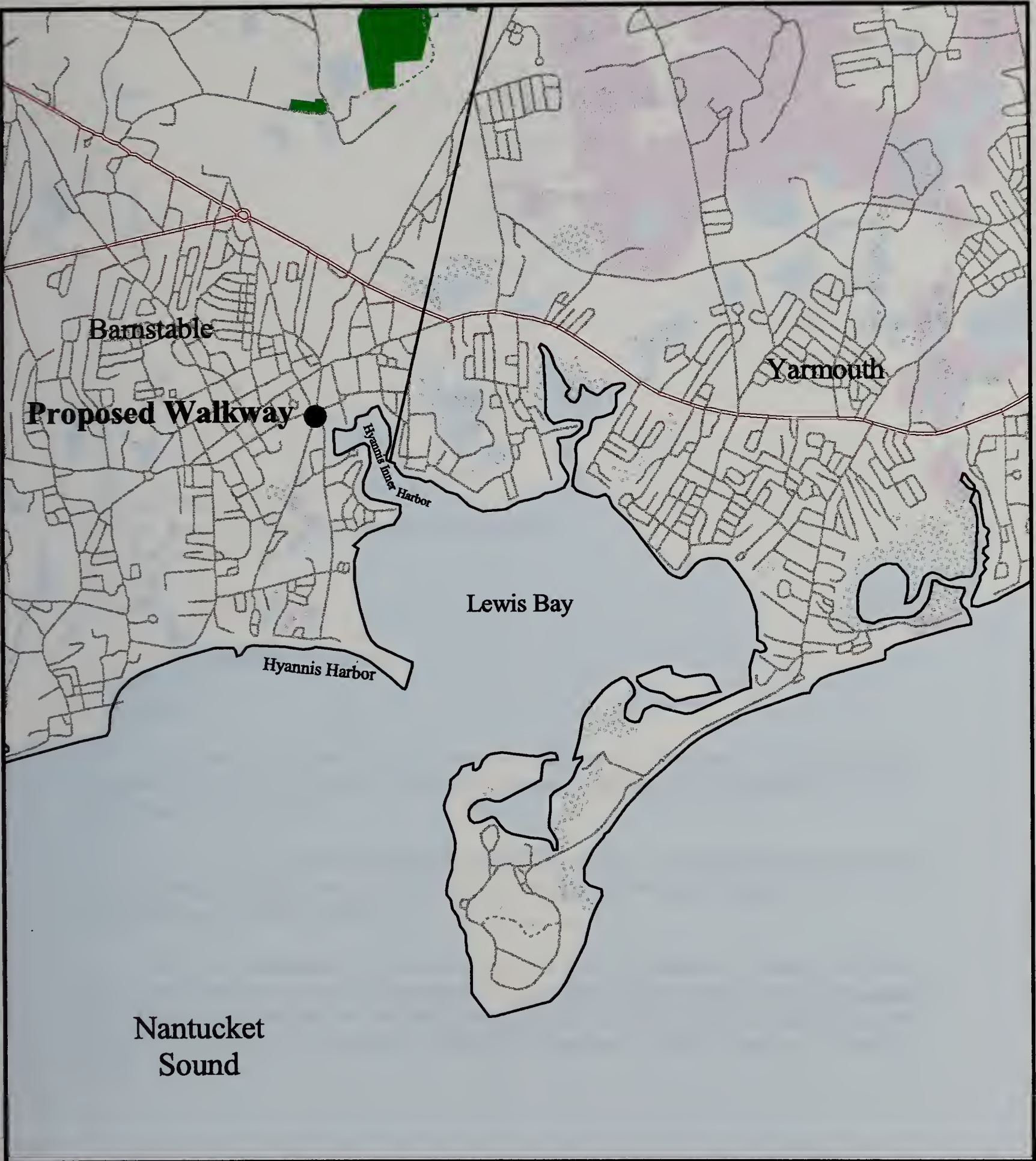
Telephone: (508) 362-5230

Summary:

The Hyannis Area Economic Development Corporation (HAEDC) has been attempting to resolve the long-standing title problems for a property essential for the establishment of the "Walkway to the Sea," which would physically and visually link Main Street in Hyannis with the harbor. The Walkway was conceptualized over thirty years ago. In recent years, the HAEDC purchased the adjacent lots to the subject property, removing a structure and rough-grading the site, and has negotiated to receive the deed to a second house that needs to be removed in order for the Walkway to continue. However, complicated title problems surfaced in 1995 and have been unresolved since then. The grant procured legal services to work with the Federal Deposit Insurance Corporation to clarify the title.



Photograph by John Lopez



Hyannis Area Economic Development Corporation

"Walkway to the Sea"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet

file copy

NUTTER, MCCLENNEN & FISH, LLP

ATTORNEYS AT LAW

ROUTE 132 - 1513 HYANNOUGH ROAD
P.O. BOX 1630
HYANNIS, MASSACHUSETTS 02601-1630

TELEPHONE: 508 790-5400 FACSIMILE: 508 771-8079

DIRECT DIAL NUMBER

(508) 790-5407

December 8, 1997

#22284-1

Richard Penn, President
Hyannis Area Economic Development Corporation
c/o Puritan Clothing
P.O. Box 730
Hyannis, MA 02601

Re: Walkway to the Sea

Dear Rick:

Enclosed please find a copy of correspondence dated December 1, 1997 from RMA Partners, LP, together with the referenced enclosures (Satisfaction of Mortgage and Assignment of Mortgage).

I am, by copy of this correspondence to Ed Lambert, providing him with an update as to the status of the Walkway to the Sea title. I am also forwarding a copy of this correspondence to Mark Gianno.

For your information, I enclose a copy of my correspondence to Attorney Michael Stusse with reference to the title insurance to be received upon recording of these documents. This will also confirm that we currently have a balance in the Walkway to the Sea escrow account of \$14,621.92, from which the \$5,000.00 payment to RMA Partners, LP will be made.

NUTTER, MCCLENNEN & FISH, LLP

Richard Penn, President

December 8, 1997

Page 2

Should you have any questions concerning the foregoing or the referenced enclosures, please do not hesitate to contact me.

Very truly yours,


Patrick M. Butler

PMB/cam

cc: Edward Lambert
Mark Gianno, CPA

411604_1.WP6

RMA PARTNERS, L.P.

1000 Main Street, 3rd Floor
New Rochelle, New York 10801

Telephone: (914) 632-1700
(800) 201-2349
Telefax: (914) 632-2689

December 1, 1997

Mimi Fowler
Nutter, McClennen & Fish, LLP
Route 132- 1513 Iyannough Rd..
Hyannis, MA 02601-1630

RE: Hyannis Area Economic Development Corp. - South Street property.

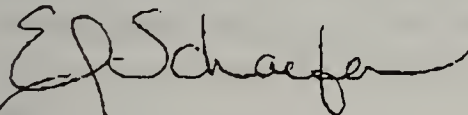
Dear Ms. Fowler:

In conclusion of the settlement of the mortgage currently held by Sixth RMA Partners, L.P. on the Zimmerman property enclosed herewith please find the assignment of the mortgage to Sixth RMA Partners, L.P. from the FDIC and the discharge of the mortgage as requested. The terms of this transaction are that RMA shall deliver to you the assignment of the mortgage from FDIC to RMA and a discharge of the mortgage in exchange for the payment of \$5,000.

These documents are being delivered to you to hold in escrow until such time as the sum of \$5,000 is delivered to Sixth RMA Partners, L.P. and you have received written, faxed instructions you may release the documents.

Thank you for your patience and assistance in this matter. If there are any questions or problems, please do not hesitate to contact me.

Sincerely,



Elizabeth J. Schaefer
General Counsel

EJS/ms
Enclosures (2)

cc: Anthony Liguori

NUTTER, MCCLENNEN & FISH, LLP

Michael Stusse, Esquire

December 8, 1997

Page 2

Please contact me at your earliest opportunity.

Very truly yours,



Patrick M. Butler

PMB/cam

cc: Richard Penn, President
Mark Gianno, Treasurer
Edward Lambert, Director

411628_1.WP6

SATISFACTION OF MORTGAGE

SIXTH RMA PARTNERS, L.P., 1000 Main Street, New Rochelle, NY 10801, does hereby certify that the following Mortgage is paid, and does hereby consent that the same be discharged of record.

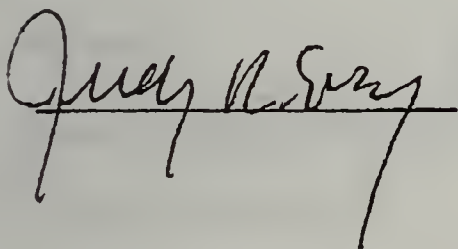
Mortgage dated March 9, 1989 made by Jeanne H. Zimmerman to Sentry Federal Savings Bank in the principal sum of \$91,800.00 and recorded in the Barnstable County Registry of Deeds in Book 6675 at page 136, as assigned by FDIC as Receiver for Sentry Federal Savings Bank to Sixth RMA Partners, L.P. by assignment which is recorded herewith.

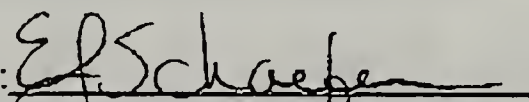
which mortgage has not been further assigned of record.

Dated the 1st day of December, 1997.

Witness:

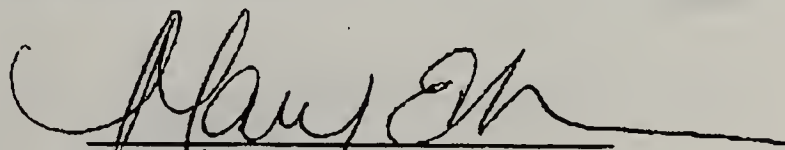
SIXTH RMA PARTNERS, L.P.



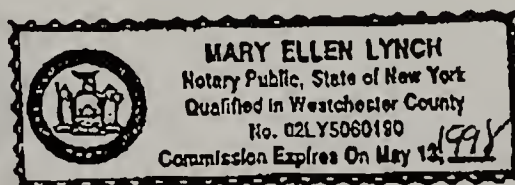
By: 
ELIZABETH J. SCHAEFER

State of New York, County of Westchester, ss:

On this the 1st day of December, 1997 before me personally appeared Elizabeth J. Schaefer to me known, who being by the duly sworn, did depose and say that she has an address of 1000 Main Street, New Rochelle, NY 10801, that she is the attorney in fact of Sixth RMA Partners, L.P., a Delaware limited partnership, the limited partnership described herein and that he as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the partnership under the authority of that General Power of Attorney executed October 9, 1997.


NOTARY PUBLIC:

A:\ZIMMER.SET



SATISFACTION OF MORTGAGE

SIXTH RMA PARTNERS, L.P., 1000 Main Street, New Rochelle, NY 10801, does hereby certify that the following Mortgage is paid, and does hereby consent that the same be discharged of record,

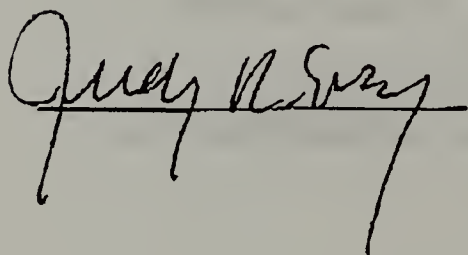
Mortgage dated March 9, 1989 made by Jeanne H. Zimmerman to Sentry Federal Savings Bank in the principal sum of \$91,800.00 and recorded in the Barnstable County Registry of Deeds in Book 6675 at page 136, as assigned by FDIC as Receiver for Sentry Federal Savings Bank to Sixth RMA Partners, L.P. by assignment which is recorded herewith.

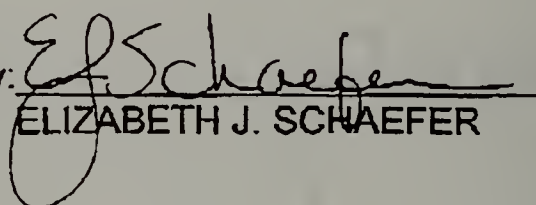
which mortgage has not been further assigned of record.

Dated the 1st day of December, 1997.

Witness:

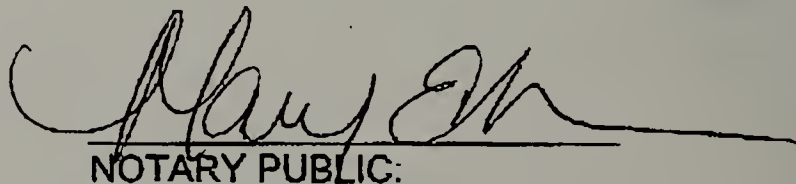
SIXTH RMA PARTNERS, L.P.



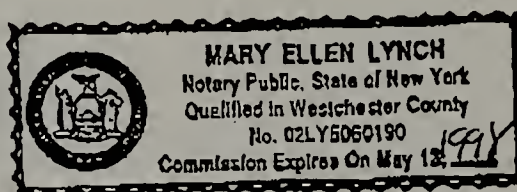
By: 
ELIZABETH J. SCHAEFER

State of New York, County of Westchester, ss:

On this the 1st day of December, 1997 before me personally appeared Elizabeth J. Schaefer to me known, who being by the duly sworn, did depose and say that she has an address of 1000 Main Street, New Rochelle, NY 10801, that she is the attorney in fact of Sixth RMA Partners, L.P., a Delaware limited partnership, the limited partnership described herein and that he as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained, by signing the name of the partnership under the authority of that General Power of Attorney executed October 9, 1997.


NOTARY PUBLIC:

A:\ZIMMER.SET



ASSIGNMENT OF MORTGAGE

The Federal Deposit Insurance Corporation, a corporation organized and existing under the laws of the United States of America, having an office at 5080 Spectrum Drive, Suite 1000E Dallas, Texas 75248, acting as Liquidating Agent /Receiver for Sentry Federal Savings Bank, which pursuant to 12 U.S.C. §1441a(m)(1) succeeded the Resolution Trust Corporation ("RTC") in its capacity as Receiver for Sentry Federal Savings Bank ("Assignor"), in consideration of the sum of Ten Dollars (\$10.00) and other valuable consideration, the receipt of which is hereby acknowledged, does hereby grant, assign, transfer and convey unto Sixth RMA Partners, L.P. doing business at 1000 Main Street, New Rochelle, New York 10801 ("Assignee") all right, title and interest in, if any, that certain

Mortgage from Jeanne H. Zimmerman dated March 9, 1989 as recorded with the Barnstable County Registry of Deeds in Book 6675, Page 136, to Sentry Federal Savings Bank covering premises at South Street, Hyannis, Massachusetts.

TO HAVE AND TO HOLD unto Assignee, its successors and assigns forever.

This assignment is made by Assignor without recourse and without representation or warranty.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed this 24 day of November, 1997 and effective October 6, 1993.

Federal Deposit Insurance Corporation acting as Liquidating Agent /Receiver for Sentry Federal Savings Bank

Witnesses:

By:

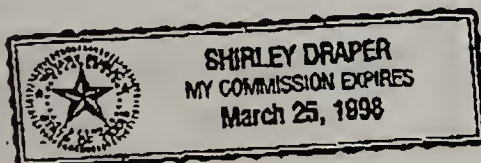
James S. Faison
James L. Faison
Its Attorney-In-Fact

STATE OF ^{TEXAS} MASSACHUSETTS)

COUNTY OF ^{DALLAS} NORFOLK)

November 24, 1997

On this the 24th of NOVEMBER, 1997, before me the undersigned officer, personally appeared JAMES L. FAISON, who acknowledged himself to be acting for and on behalf of the Federal Deposit Insurance Corporation and that he, being authorized to do so, executed the foregoing instrument for the purposes therein contained as his free act and deed and the free act and deed of the corporation, by signing the name of the corporation by himself as Attorney-In-Fact.



Shirley Draper
Notary Public
My Commission Expires:

NUTTER, MCCLENNEN & FISH, LLP

ATTORNEYS AT LAW

ROUTE 132 - 1513 HYANNOUGH ROAD
P.O. BOX 1630
HYANNIS, MASSACHUSETTS 02601-1630

TELEPHONE: 508 790-5400 FACSIMILE: 508 771-8079

DIRECT DIAL NUMBER

(508) 790-5407

December 8, 1997

#22284-1

Michael Stusse, Esquire
Ardito, Sweeney, Stusse, Robertson & Dupuy, P.C.
25 Mid Tcch Drive
West Yarmouth, MA 02673

Re: Chicago Title Insurance Company Policy No. 22 0025 106 00000051
Walkway to the Sea Project - Hyannis Area Economic Development
Corporation

Dear Michael:

Enclosed please find copies of the following original documents in my possession:

1. Assignment of Mortgage from FDIC, as Successor in Interest to RTC;
2. Satisfaction and Discharge of Mortgage.

As I previously indicated, we are prepared to record these documents to provide for deletion of Exception No. 5 contained on the enclosed title insurance policy. In addition, we would request that the UCC-Financing Statement Exception No. 6 be deleted, in light of the time period which has transpired since recording, with no recording of a continuation statement.

Kindly advise as to the cost to obtain an updated endorsement running in favor of the Hyannis Area Economic Development Corporation.

The HAEDC intends to donate this land to the Town of Barnstable and such title insurance policy is required prior to such gifting.

ASSIGNMENT OF MORTGAGE

The Federal Deposit Insurance Corporation, a corporation organized and existing under the laws of the United States of America, having an office at 5080 Spectrum Drive, Suite 1000E Dallas, Texas 75248, acting as Liquidating Agent /Receiver for Sentry Federal Savings Bank, which pursuant to 12 U.S.C. §1441a(m)(1) succeeded the Resolution Trust Corporation ("RTC") in its capacity as Receiver for Sentry Federal Savings Bank ("**Assignor**"), in consideration of the sum of Ten Dollars (\$10.00) and other valuable consideration, the receipt of which is hereby acknowledged, does hereby grant, assign, transfer and convey unto Sixth RMA Partners, L.P. doing business at 1000 Main Street, New Rochelle, New York 10801 ("**Assignee**") all right, title and interest in, if any, that certain

Mortgage from Jeanne H. Zimmerman dated March 9, 1989 as recorded with the Barnstable County Registry of Deeds in Book 5675, Page 136, to Sentry Federal Savings Bank covering premises at South Street, Hyannis, Massachusetts.

TO HAVE AND TO HOLD unto Assignee, its successors and assigns forever.

This assignment is made by Assignor without recourse and without representation or warranty.

IN WITNESS WHEREOF, Assignor has caused this instrument to be executed this 24th day of November, 1997 and effective October 6, 1993.

Federal Deposit Insurance Corporation acting as Liquidating Agent /Receiver for Sentry Federal Savings Bank

Witnesses:

James L. Faison
James L. Faison

By:

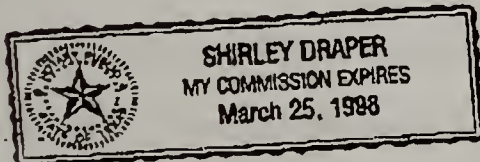
James L. Faison
James L. Faison
Its Attorney-In-Fact

STATE OF ~~MASSACHUSETTS~~ ^{TEXAS})

COUNTY OF ~~NORFOLK~~ ^{DALLAS})

November 24, 1997

On this the 24th of November, 1997, before me the undersigned officer, personally appeared JAMES L. FAISON, who acknowledged himself to be acting for and on behalf of the Federal Deposit Insurance Corporation and that he, being authorized to do so, executed the foregoing instrument for the purposes therein contained as his free act and deed and the free act and deed of the corporation, by signing the name of the corporation by himself as Attorney-In-Fact.



Shirley Draper
Notary Public
My Commission Expires:

Press Release

For More Information, Call:

Dave Chase (508)790-2500

For Release 8:00 AM EST
September 12, 1995

HAEDC BUYS KEY PARCELS FOR WALKWAY-TO-THE-SEA

HYANNIS, MA: The Hyannis Area Economic Development Corporation (HAEDC), a Division of the Hyannis Area Chamber of Commerce, has acquired two key parcels necessary for completing the "Walkway-to-the-Sea" linking Main Street in Hyannis to the Harbor. The Walkway-to-the-Sea was first proposed over thirty years ago by famed architect, Ben Thompson, as the way to reopen the historic link between the harbor and Main Street.

On Friday, September 8, 1995, the HAEDC purchased 67 Ocean Street and a vacant parcel of land from 67 Ocean Street Trust for \$130,000.00. The property is located on the northwest corner of the intersection of Ocean Street, South Street and Old Colony Boulevard. The parcel commands a spectacular view of Hyannis Inner Harbor.

The two parcels comprise approximately 0.34 acres. There is a large two story house on the corner parcel. Plans call for the removal of this house. The HAEDC is seeking proposals from anyone interested in moving the house. Furniture is being donated to the Housing Assistance Corporation for use in local non-profit shelter programs.

The HAEDC intends to be a brief custodian of the property. The next phase of the project will be to work with the Town of Barnstable to develop a plan for the development of a park on the site. Funds for design and implementation are awaiting Senate approval of a \$220,000 expenditure in an open space bond bill approved by the Massachusetts House of Representatives in late June. Representative John C. Klimm played a key roll in saving this funding from the

cutting room floor. The HAEDC intends to donate the property to the Town of Barnstable for inclusion in the Walkway-to-the-Sea.

Dave Chase, President of the Hyannis Area Economic Development Corporation, addressed a group of contributors and supporters of the project "The HAEDC is proud to be a participant in this important project linking Downtown Hyannis and the Harbor. We would like to express our gratitude to the many people, agencies and businesses who have contributed their time, money and talents to making this happen. A special thank you to Steve Lawson and Cape Cod Bank & Trust for contributing \$30,000.00 and Steve's valuable time to raising additional funds. My personal tip of the hat to Gene Curry and Lanny Chase for the initiation and stewardship of the HAEDC's option on this property. Many thanks to Patrick Butler of Nutter, McClennen and Fish who volunteered his good offices and ample talent to the closing of this transaction. And a warm thank you to the Barnstable Town Council, Barnstable Planning Department, Barnstable DPW, Barnstable Town Managers Office, Massachusetts Secretary of Transportation, Representative John Klimm, Senator Henri Rauschenbach, the Main Street Waterfront Association and our parent Hyannis Area Chamber of Commerce."

Funding for this acquisition comes from a public-private partnership between local businesses, the Town of Barnstable and the Commonwealth of Massachusetts. Each party is contributing one third of the acquisition cost. Fund raising for the HAEDC has been placed under the able stewardship of Stephen B. Lawson, President of Cape Cod Bank & Trust Company. Contributions may be sent to HAEDC Walkway Initiative c/o Cape Cod Bank & Trust Company - 307 Main Street, Hyannis, MA 02601 ATT: Stephen B. Lawson, President. A list of private contributors is attached to this release.

TOWN OF BARNSTABLE

LOCAL COMPREHENSIVE PLAN

Section 1.0 Land Use and Growth Management

PRELIM.

DRAFT

Accepted by the Local Planning Committee 12/27/94

19. Hyannis Inner Harbor

This is the "other half" of the Main Street Waterfront District. In 1992, the ferry services transported 906,000 passengers, 66,000 automobiles and 24,000 trucks. In addition many tourists search out the harbor looking for Hyannis Port, home of the Kennedy Compound.

Historically, most of the Steamship Authority traffic has passed through to the islands and is not focused on Hyannis as a destination. These travelers have not found what they were looking for in Hyannis since the historical context and sense of place has eroded over time. Recent events have attempted to redirect the traffic flow through the Main Street Waterfront District and recreate the area as a "microcosm of Cape Cod". The proposed Walkway to the Sea is seen as a critical link between the waterfront uses of the harbor, and the retail and restaurant uses of Main Street.

Growth Management Initiatives include improved pedestrian access, recognition of appropriate water dependent, water related uses and their accessory uses with a reduction in surface parking lots (with shuttle bus linkage to other areas such as beaches and parks). Specific actions include:

- * Acquisition, design and construction of the Walkway to the Sea.
- * Purchase of identified key properties.
- * Development of a "boardwalk" system along the water's edge for public access, harbor views and improved pedestrianism;
- * Ensure improvement of the land-side terminal facilities for the Steamship Authority with reduced parking on the waterfront, landscaping, buffering and a board walk.
- * Promotion and encouragement of water dependent uses as a priority in the Business Limited B (BL-B) District
- * Recognition of the accessory/support role of limited, small scale retail uses such as electronics/communications, sail lofts, fish markets and marine hardware uses, as a component of some water dependent uses. Standards for location, design and support facilities need to be developed.
- * Reduction of the number of parking lots around the harbor. Ensure the creation of adequate parking facilities away from this area, appropriately located, with a shuttle linkage.
- * Provide for improved small boat access at the Lewis Bay Public Landing and at Pleasant Street.
- * Encourage the development/redevelopment of hotel/motel uses in the Business zone with public access to the water for residents, their guests and tourists.
- * Exploration of a deeper and wider channel to link the inner harbor to Nantucket Sound.
- * Promotion of a Maritime Museum at Asleton Park or on appropriately located private property and development of a visiting tall ship program that preserves our historical link to the sea.

TOWN OF BARNSTABLE

LOCAL COMPREHENSIVE PLAN

3.0 Economic Development

PRELIM.

DRAFT

Accepted by the Local Planning Committee 9/24/93

Strategy 3.1.5.3: Allow multiple use options to encourage the preservation of historic structures through adaptive re-use.

Education/Job Training

Policy 3.1.6

Encourage the enhancement of job training and advanced educational opportunities to address the needs of an educated labor force.

Strategy 3.1.6.1: Promote the expansion of Cape Cod Community College to provide advanced educational opportunities.

Strategy 3.1.6.2: Attract research oriented institutes to locate facilities within the town (ie. educational, environmental or medical).

Tourism/Waterfront Development

Policy 3.1.7

Promote Hyannis Inner Harbor and Waterfronts as tourist destination points with an array of culturally and commercially diverse opportunities that represents the Maritime history of Barnstable and the current commercial fishing industry.

Strategy 3.1.7.1: Establish aesthetically pleasing tourist information centers, or "arrival zones", strategically placed within easy access of the regional roadway network and the regional transportation center.

Strategy 3.1.7.2: Develop public access to the waterfront and improve pedestrian movement around the harbor to promote a festive streetscape based on green tourism opportunities in conjunction with existing ferry line operations and whale watch operations.

Strategy 3.1.7.3: As a priority develop the "Walkway to the Sea" concept for the Main Street and harbor front area of Hyannis, by identifying and acquiring the necessary properties for implementing the design.

Strategy 3.1.7.4: Stimulate commercial and recreational opportunities, emphasizing commercial fishing, that support water dependent and water related marine uses around the harbor front.

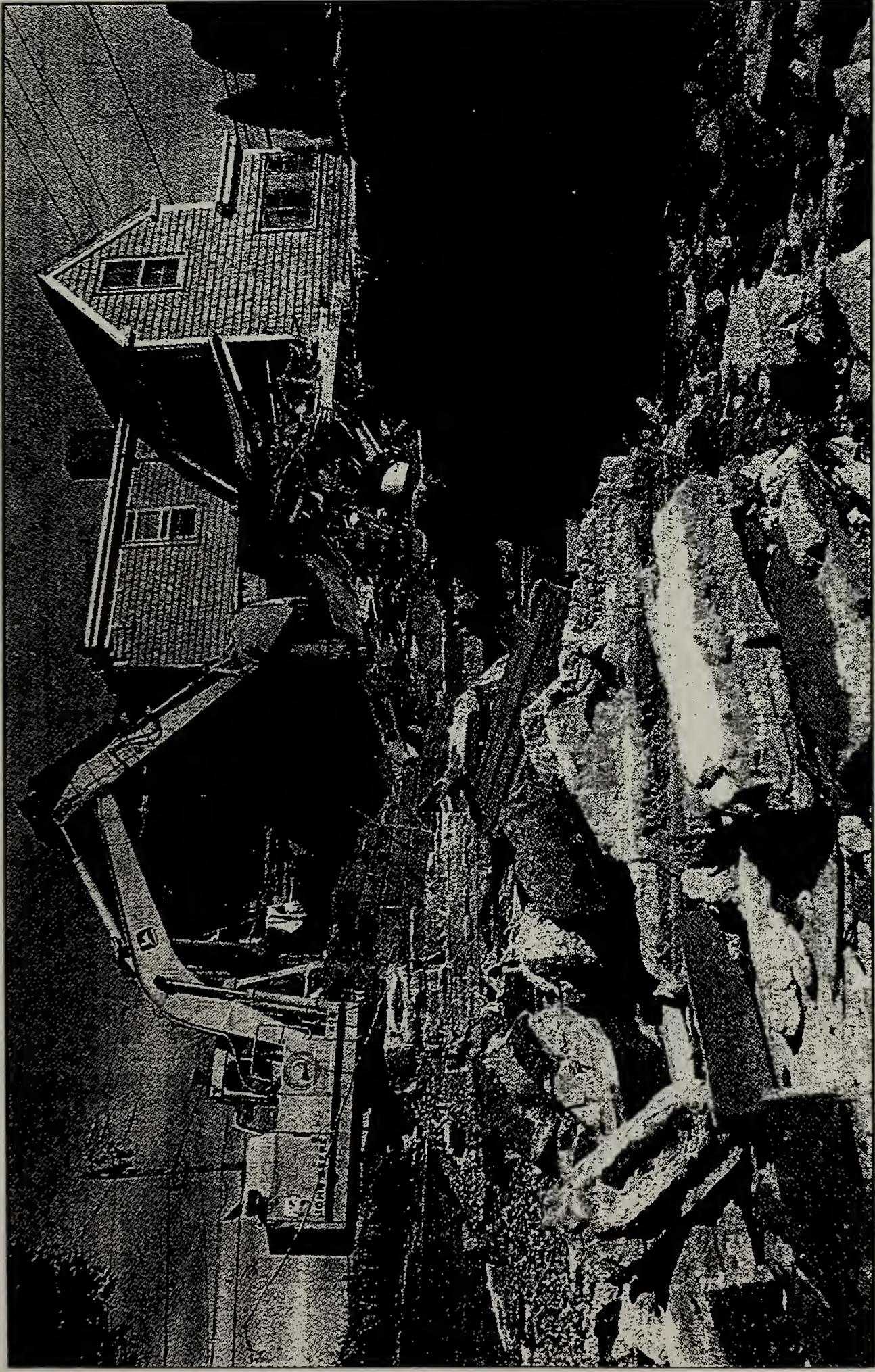
Strategy 3.1.7.5: Encourage the relocation of commercial parking facilities away from the waterfront area, through the provision of shuttle bus service.

Strategy 3.1.7.6: Encourage the development of a cultural magnet center within the community.

Strategy 3.1.7.7: Permit no new non-water dependent uses in any harbor areas of town.

Making way

2-27-96



Staff Photo by STEVE HEASLIP

■ A house at Ocean and South streets in Hyannis is demolished to make way for a planned walkway from the Main Street business district

to the harbor. The equipment and time to tear down the house are being donated by Hyannis Marine.

1997 Coastal Access Grants Program

Project Name: COASTAL INTERPRETIVE PROGRAM

Location: Brewster & Orleans

Grant: \$1,440

Organization: Friends of Nickerson State Park

Contact Person: Chris Williams

Address: P.O. Box 964
Brewster, MA 02631

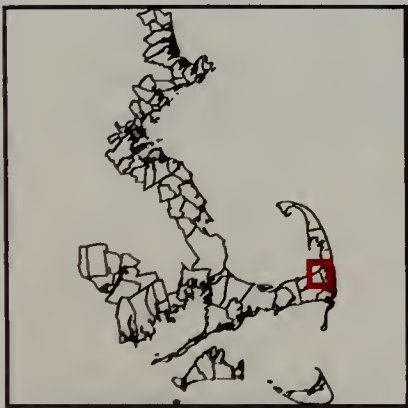
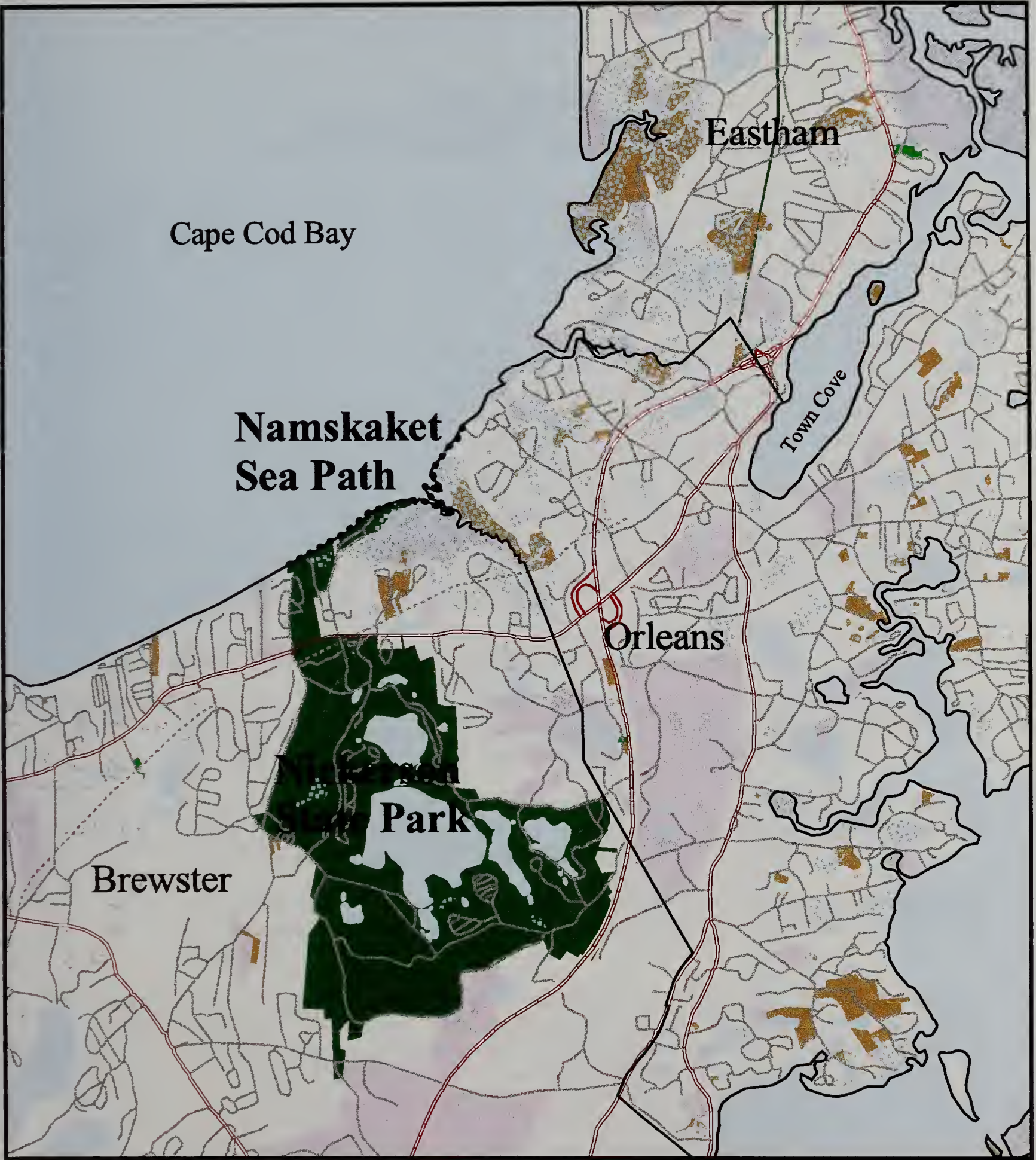
Telephone: (508) 385-5051

Summary:

The Friends of Nickerson State Park developed a coastal interpretive program at Nickerson State Park's bayside area and the adjoining Namskaket Sea Path. Free, guided, weekly coastal walks were provided for hundreds of people from June through September of 1997, educating participants on coastal issues including promotion of public access. The project enhanced Nickerson State Park's interpretive program by scheduling walks in the shoulder seasons as well as augmenting the summer (July and August) program schedule. In addition, three more walks are scheduled during the winter. The grant supported staff time for administering the program, training naturalists, publicizing the series, and leading walks.



Photograph by Doreen Leggett



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Friends of Nickerson State Park

"Coastal Interpretive Program"

1997 DEM Coastal Access Grant

3000 0 3000 6000 Feet



FINAL REPORT
Coastal Interpretive Program
Friends of Nickerson State Park, Inc.

The grant project was to initiate a formal interpretive program, sponsored by the Friends of Nickerson State Park, Inc., to augment the limited program only available in July and August at the Park. We provided a series of interpretive coastal walks throughout the 1997 season promoting coastal access and environmental education. We utilized the bayside properties of Nickerson State Park, the adjacent Brewster Conservation Lands, and the Namskaket Seapath. These free walks were offered to Park users and the general public on a weekly basis from June 8th to September 27th. Parking was available at Crosby Landing, a town beach, during the spring and fall. In the summer, when parking permits are required by the town, arrangements were made with the town to use the lot, as the Nickerson Park Interpreters have done in the past. Handicapped parking spaces are marked at the lot and Nickerson's beach wheelchair was available and used once. The environmental impact of these walks on the area's ecology was minimal as existing gravel trails and the beach area below the high tide line were utilized for the walks.

Our goals for the interpretive program were to:

- 1.) To provide environmental education and create advocacy, giving more people the opportunity to learn, and later become supporters of the coastal environment.
- 2.) To increase interpretive programming at Nickerson State Park by both extending it into the shoulder seasons and augmenting the Park's program in the summer.
- 3.) promote coastal access, including the Namskaket Seapath at Nickerson and extending it further into Brewster and Orleans.

Seventeen coastal walks were offered on a variety of topics, including Coastal Geology, Saltmarshes, Tidal Flats, and Coastal Fauna. All walks were prefaced with information on coastal access issues and the development of the Namskaket Seapath, occasional resulting in a lively discussion! Visitors to the Cape and many residents enjoyed the walks and the opportunity to learn more about coastal subjects. The total number in attendance at the walks was 381 people. Hopefully their participation gave them the knowledge which will lead to a deeper awareness and appreciation not only for coastal access but also the issues which surround it.

The Friends hope to sustain the program in the future through similar grant awards as most of our fundraising efforts are directed towards the more pressing demands of infrastructure rehabilitation and improvements at the park.

PROJECT TIMELINE:

December, 1996:	Grant Awarded
February, 1997:	hired consultant to administer program
March/April, 1997:	walk options/topics researched
May, 1997:	spring walk series publicized
June, 1997:	weekly walks led by consultant summer naturalists hired and trained summer series publicized
July/August, 1997:	weekly walks continued by summer staff fall series publicized
September, 1997:	walk series continued by consultant and staff
October, 1997:	final report prepared and submitted to DEM

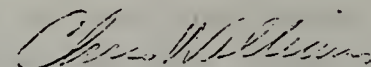
VISUAL DOCUMENTATION:

35 mm slide of walk area enclosed
Newspaper article attached

RECEIPTS/RECORDS:

attached

SUBMITTED BY:



Chris Williams
Grant Administrator

MEMORANDUM

TO: Geordie Vining
FROM: Chris Williams, Friends of Nickerson State Park
SUBJ: Coastal Access Grant Leftover Funds
DATE: October 17, 1997

Per our conversation today, re: the final \$108.00 remaining in our grant, we will be continuing our interpretive program over the winter. We will be scheduling 3 walks approximately a month or so apart. There's often a dearth of activities in the winter and it will also keep us, the park, and seapathing 'in the news'!

We will forward receipt(s) and numbers when they're done, to add to our final report.

Thank you.

Sea Path Slog at High Tide

By Doreen Leggett

Even though it was high tide, about 20 people turned out Sunday for a naturalist-led trek along Namskaket Sea Path.

Many felt it was important to learn about the creatures that inhabit the wetlands to work to preserve the area.

"The Cape we love is in some jeopardy," said Angus Smith. "I'm a surfer; I guess that makes me an environmentalist."

The walk is one of a series sponsored by the Friends of Nickerson State Park. The two-hour tours are free and funded by a grant from the state Department of Environmental Management's Coastal Access Small Grants Program. The next walk, on Aug. 3, at 6:30 p.m. will be a "critter crawl" where participants search the dunes and the marsh for creatures.

Chris Carter, a naturalist at Nickerson, leads the walks with Wendy Savino.

Namskaket Sea Path is a stretch of land along an intertidal zone that through legal rights of way, allows the public access to private land in Orleans and Brewster. Those who organize the walks

*...Children were
armed with nets to see
what organisms lived
under the muck.*

hope people realize that most tidal flats, except for Skaket Beach and 3,000 feet of shoreline in Nickerson, are privately owned. Only through cooperation between public and private interests will paths like Namskaket succeed, said Mr. Carter.

"The walk makes the general public aware that most of the beaches and the bay are privately owned," he said.

Public access to beautiful areas such as this are important.

"A salt marsh is one of the most diverse environments you can find. There are a tremendous amount of plant and bird species," said Mr. Carter, adding that



Angus Smith shares a laugh with a fellow walker while examining a mermaid's purse, or egg pouch of a skate.

Reveals Bay Wonders



Jacqueline Agzigian studies numerous snails picked up in a walk along the Namskaket Sea Path.

Staff Photos by Doreen Leggett

the last time he was in the marsh he saw five deer.

Walkers were told to be careful walking on the sensitive marsh grass, or salt hay, and to spread out so a single line didn't tramp down a path. Mr. Carter said that residents farmed salt marsh hay back in the 1800s to feed livestock. If people bought land with a salt marsh on it they were lucky, he said.

Children were armed with nets to see what organisms lived under the muck. They were rewarded with a bountiful supply of miniature snails.

"I thought they were normal bugs. I didn't know they were snails," said Matt Howe, 8, who was visiting from upstate New York.

Because it was high tide, people had to slog through calf-deep water to catch a better glimpse of birds such as the red-winged blackbird and cliff swallow and to see the flora species, such as cord

grass and phragmites.

No one minded too much, though.

"I liked the way we stopped in the water," said Jacqueline Agzigian, 9, of New Jersey, who was staying with her grandparents in Nickerson State Park.

Her grandparents, Joseph and Joyce McLaughlin, have come to Nickerson State Park for the last 25 years, first with their five children and now their two grandchildren. Ms. McLaughlin said the programs the park offers get better every year.

"We like it too. It is not only for the little guys," she said.

The abundance of insects that live in the marsh supply the birds with an ample food supply. The marsh also supplies a number of biting flies, which humans have tried to curb, said Mr. Carter.

He explained that the blue boxes on the marsh were filled with ox blood to

(Continued on Page 13)

Sea Path Slog (Continued From Page 3)

attract greenhead flies, which go into the box and then can't get out. He said the jury was still out on whether the boxes work.

Although the boxes caught the interest of a number in the party, the object that fascinated them most was a telephone pole-like structure. Mr. Carter explained that ospreys will build their nests on the man-made structure because it resembles the snags, or dead trees, on which ospreys usually nest.

"It makes it easier to see their victims during the day," he added.

Mr. Carter warned the walkers not to get too close to the ospreys because it stresses them out and they might not come back next year.

Although he thought the osprey was "neat," Matt was far more impressed with an item he got to borrow for the walk.

"I like the binoculars," he said. "I think this walk is great."

The evening ended with a walk along the beach of the bay and a quick history of the formation of Cape Cod.

At low tide there is quite a difference between the bay and the ocean side; the tide on the bay goes out much farther. Mr. Carter explained that the longshore current goes west to east, so the waves aren't coming in straight.

The sand that is picked up from the mid-Cape is dumped here, making the water very shallow.

He said the Cape was formed 10,000 years ago when the last glaciers retreated, leaving two separate sections: one the biceps, the other the forearm of the Cape. Provincetown is created by ocean currents. Mr. Carter added that scientists say that Provincetown, Wellfleet and Truro will be an island some day.

While imaging the glaciers of another time, walkers were brought sharply to the present by a jangling cellular phone.

Along the beach walkers discovered mussels with barnacles, a dead horseshoe crab, complete with slipper shells which attach to the shells of many animals to hitch a ride, and a skate egg case, which is also called Mermaids purse, said 13-year-old Rachel Agzigian.

Even those who missed out on the walk were rewarded with an example of marine life.

"I'm going to bring a crab home to my mom because she had to work," said Jacqueline.

The walks start at Crosby Landing off Route 6A opposite Nickerson State Park. Appropriate foot wear, sun screen and bug repellent are recommended.

1997 Coastal Access Grants Program

Project Name: ORLEANS COASTAL ACCESS IMPROVEMENT PROGRAM

Location: Orleans

Grant: \$1,670

Organization: Town of Orleans, Harbormaster Department

Contact Person: Dawson Farber

Address: 19 School Road
Orleans, MA 02653

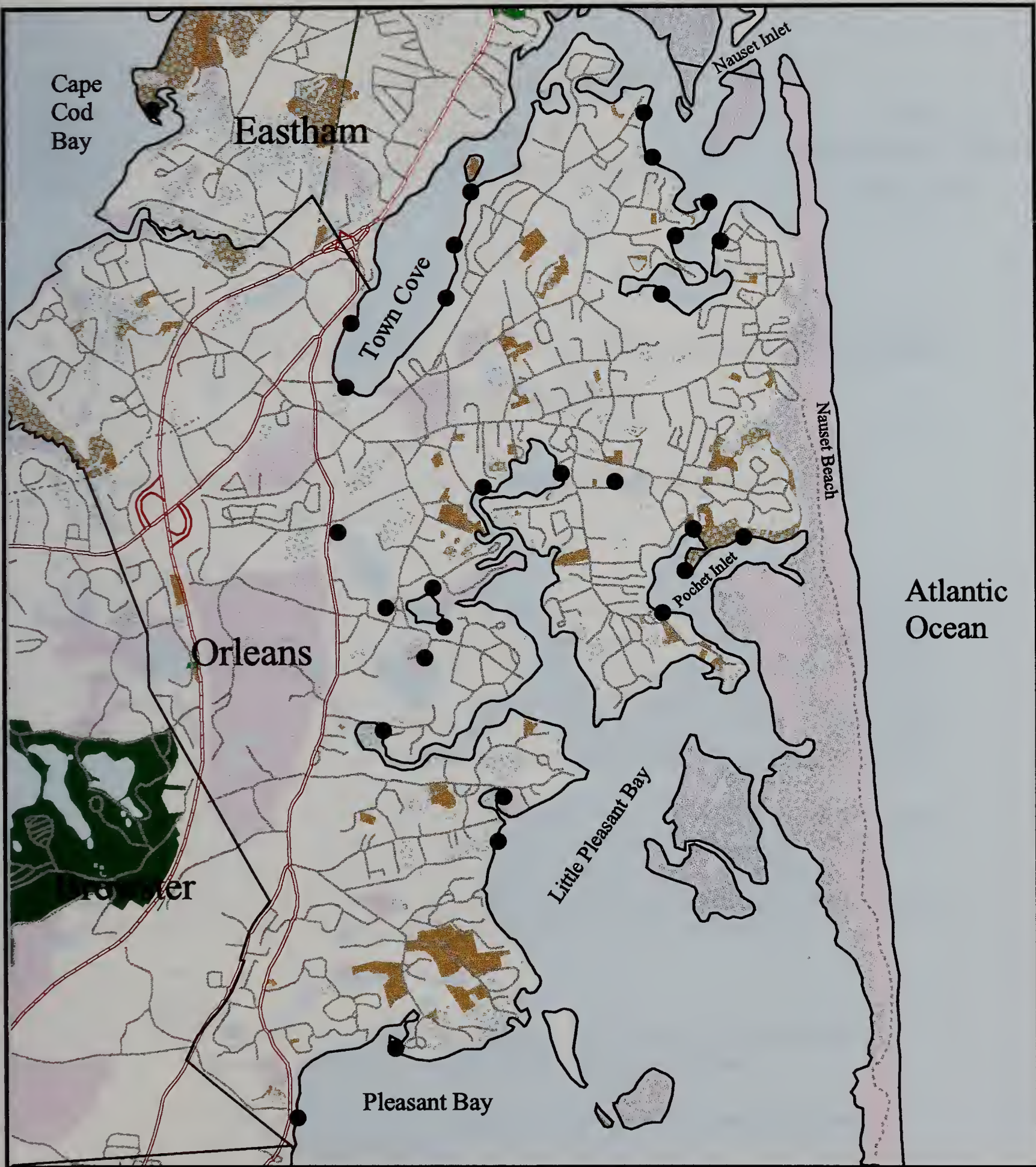
Telephone: (508) 240-3755

Summary:

The Town of Orleans designed, purchased, constructed, and installed signs and information points at 27 landings and public access points, as well as developed a coastal access map and pamphlet describing amenities and characteristics for public distribution. Previously, the majority of the access points were poorly marked and overlooked. The grant purchased materials for the signs, pamphlet boxes, and printing costs.



Photograph by John Lopez



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Town of Orleans

"Coastal Access Improvement Project"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



TOWN OF ORLEANS

19 School Road RR #1

ORLEANS, MASSACHUSETTS 02653-3699

OFFICE OF

HARBORMASTER / SHELLFISH

(508) 240-3755

Orleans Coastal Access Improvement Program Final Report

*Contact Person: Dawson Farber, Orleans Harbormaster/Shellfish
Constable*

• **Project Description**

The town of Orleans, with over fifty (50) miles of shoreline bordering two local estuaries and Cape Cod Bay, is well-suited for a wide array of coastal activities including, but not limited to, walking, bird-watching, seashell collecting, recreational fishing, and canoeing and kayaking. Unfortunately, prior to receiving the 1997 Coastal Access Small Grant from the DEM Resource Conservation Division, many of the town's coastal access points were poorly marked and as such were often overlooked as means of accessing the valuable resources of the coastal environment.

Orleans' access project was designed with the intent of increasing public awareness of coastal access points, shoreline activities, coastal habitats and resource protection, etc.. The project had no adverse impact on the area's ecology. In fact, the program was designed to reduce adverse impacts by promoting safe, environmentally-friendly activities, and to educate the general public about the fragility of our natural resources.

Goals

- 1) To increase overall public awareness of coastal access points and their respective geographic locations within the town of Orleans.
- 2) To increase overall public awareness of shoreline activities and coastal recreational opportunities.
- 3) To further educate the general public regarding coastal resources and wildlife habitats and the sustainable use and enjoyment of these resources.

Methods of Implementation

In order to achieve the aforementioned goals, the following methods/tasks were implemented:

- 1) Purchasing and placement of numerous signs, posts, and trail markers designating, where appropriate, coastal access points and shoreline footpaths.
- 2) Creation, reproduction, and distribution of a "Coastal Access Guide". The "Guide" (enclosed) includes a detailed map of the local coastal access points and footpaths, recreational activity opportunities, shellfish and wildlife habitat descriptions, scenic viewpoints, historical markers and places, and listings of nearby facilities and contacts (parking, handicapped access, emergency centers, telephones, public restrooms, picnic areas, etc.).

• Anticipated Next Steps

As previously mentioned, funding availability for maintaining the signs and guide boxes will inevitably be an obstacle. I am confident, however, that with adequate monitoring and upkeep by personnel in my department, the aforementioned materials will last for years to come. Without question, the landing signs and informational guides are of benefit both to the town, its residents, and visitors, therefore, I will be requesting that a sum in the amount of \$300.00 be allocated annually by the town for the cost of updating the Coastal Access Guide.

• Project Timetable

The project took several months to complete. The implementation process proceeded as follows:

- January, 1997-March, 1997: -Ordered and received signs, sign letters, posts, and associated hardware.
- March, 1997-May, 1997: -Reviewed potential formats for the "Coastal Access Guide" and researched information to be included in the Guide regarding natural resources, facilities, etc..
-Drafted language for the Guide and map formats.
-Created a "Draft Access Guide".
-Designed boxes for the Guides which were to be installed at each of the coastal access points.
- May, 1997-September, 1997: -Revised "Draft Access Guide". Reproduced Guide at local printing company.
-Installed signs at all of the town landings and local coastal access points.
-Constructed Guide boxes and installed these at each of the locations indicated on the Guide map.

• Visual Documentation and End Products

Please see the copy of the completed 1997 Coastal Access Guide as well as several photographs of coastal access points, landing signs, and guide boxes attached at the end of this report. *(Note: The locus map is included within the Access Guide).*

• Comments

In short, I felt that the Grant Program was very well organized and administered. There is no doubt in my mind that without the funding provided to our town from DEM, the marking of the town landings and coastal access points, in addition to the development of a coastal access guide, would have taken years to complete. As for the grant program's administrators, both Geordie Vining and John Lopez called me several times inquiring about the status of Orleans' project, and each time I was offered advisory assistance by them in the event that any obstacles were encountered during the implementation process. Also, Geordie and John were courteous enough to visit Orleans to get a better feel for the area, the program, and to offer suggestions on possible future project ideas. Many thanks to these two individuals for all of their help and guidance!

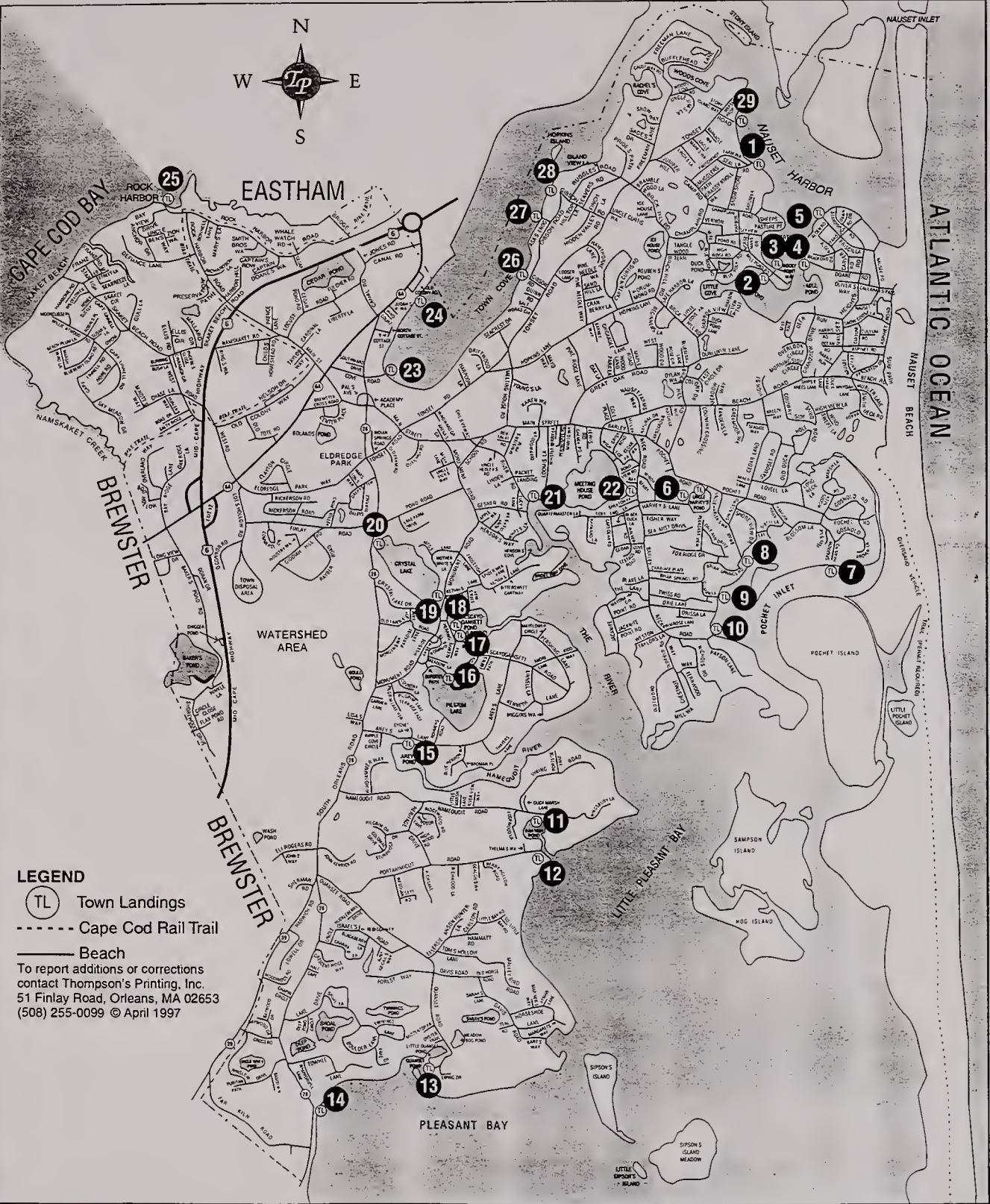
Also, as an aside, many other departments in the town of Orleans have already requested a set of the Coastal Access Guides for public display and distribution at their offices. Hopefully, we will be able to meet their requests through an increase in future budget allocations.

• Final Project Budget Itemization and Receipts

The following is the final itemized budget plan for the Orleans Coastal Access Improvement Program. In-kind costs not listed included construction of the guide boxes, development of the access guides, and installation of the access signs. *(Please note: Attached at the end of this section are copies of all receipts for materials purchased):*

<i>Item Description</i>	<i>Number of pieces</i>	<i>Cost/Piece</i>	<i>Total Cost</i>
Sign posts	27	\$11.46/post	\$309.42
Blank signs	27	\$8.93/blank sign	\$241.11
Sign brackets	27	\$4.31/bracket	\$116.37
Assrt'd sign letters	22 packets	\$5.13/letter packet	\$122.89
Lumber for boxes	12 pieces	\$28.15/piece (6) \$14.05/piece (6)	\$253.20
Paint & misc. supplies			\$ 30.20
Printing (laminated guide covers for boxes)	25 pages	\$0.77/page	\$ 19.30
Design and printing of Access Guides	1300 guides	\$0.44/guide	\$577.51
TOTAL FINAL PROJECT COST=			\$1,670.00

Coastal Access Guide for the Town of Orleans, Massachusetts



Coastal Access Guide for the Town of Orleans, Massachusetts

Welcome to the town of Orleans! In an effort to provide information to the general public regarding our town and its coastal resources and facilities, the following guide has been developed. The map on the left indicates Orleans' town landings and other shoreline access points, and below is a description of each landing and access point. We hope that you will enjoy all that Orleans has to offer and that you will help us in our efforts to keep the shoreline and waters safe and clean for all to enjoy!

COASTAL ACCESS GUIDE MAP KEY				
Number	Landing Name	# Parking Spaces	Launch Ramp (Y/N)	Additional Notes
1	Snow Shore/Seal Lane	12	N	Access to Nauset Harbor Estuary. No trailer parking.
2	Mill Pond	4-5	Y	Access to Nauset Harbor Estuary.
3	Robert's Cove	4-5	N	Access to Nauset Harbor Estuary.
4	Doane Road	6	N	Access to Nauset Harbor Estuary.
5	Priscilla Beach	8	N	Access to Nauset Harbor Estuary. Scenic views of Tern Island and Nauset Beach.
6	Harvey's Lane	1-2	N	Footpath access to fresh water pond.
7	Sparrowhawk Road	3-5	N	Access to Pleasant Bay Estuary and Pochet Bay. Scenic views of salt marshes and Nauset Beach.
8	Briar Springs Road	1-2	N	Footpath access to Pleasant Bay Estuary and Pochet Bay.
9	Gilman Lane	1-2	N	Footpath access to Pleasant Bay Estuary and Pochet Bay.
10	Barley Neck Road	8-10	N	Footpath access to Pleasant Bay Estuary and Pochet Bay.
11	Namequoit Road/ Pah Wah Pond	3-4	N	Footpath access to Pah Wah Pond, Pleasant Bay Estuary, and adjacent Pah Wah Recreation Area. Additional parking available at the Recreation Area.
12	Portanimitcut Road/ Pah Wah Pond	8-10	Y	Access to Pleasant Bay Estuary. Public dockage facility.
13	Quanset Pond	8	Y	Access to Pleasant Bay Estuary.
14	Route 28	8	N	Access to Pleasant Bay Estuary. Scenic views of Big Bay and Nauset Beach.
15	Arey's Pond	2	N	Footpath access to Pleasant Bay Estuary.
16	Pilgrim Lake/Herring Brook Road	20	N	Access to freshwater lake. Public swimming area.
17	Kescayogansett Pond	2	N	Footpath access to Lonnie's Pond and Pleasant Bay Estuary. Also the location of local herring run.
18	Kescayogansett Pond	3-5	Y	Access to Lonnie's Pond and Pleasant Bay Estuary.
19	Crystal Lake/Monument Rd.	12	N	Access to freshwater lake. Public swimming area.
20	Crystal Lake/Route 28	6	Y	Access to freshwater lake.
21	River Road	12-15	Y	Access to Meetinghouse River and Pond and Pleasant Bay Estuary. Public dockage facility.
22	Meetinghouse Pond/ Barley Neck Road	20	Y	Access to Meetinghouse River and Pond and Pleasant Bay Estuary. Public swimming area. Public dockage facility.
23	Cove Road	15-18	Y	Access to Town Cove and Nauset Harbor Estuary. Public dockage facility.
24	Goose Hummock	15-20	Y	Access to Town Cove and Nauset Harbor Estuary. Public dockage facility.
25	Rock Harbor	75	Y	Access to Cape Cod Bay. Home to the Rock Harbor Charter Fishing Fleet. Scenic views of Cape Cod Bay and salt marshes.
26	Gibson Road (a)	1	N	Footpath access to Town Cove and Nauset Harbor Estuary.
27	Asa's Landing	6	N	Access to Town Cove and Nauset Harbor Estuary.
28	Gibson Road (b)	1	N	Footpath access to Town Cove and Nauset Harbor Estuary. Scenic view of Hopkins Island.
29	Tonset Road	6-8	N	Footpath access to Town Cove and Nauset Harbor Estuary.

1997 Coastal Access Grants Program

Project Name: WELLFLEET WAYS TO THE SEA VIDEO PRODUCTION

Location: Wellfleet

Grant: \$3,000

Organization: South Wellfleet Neighborhood Association

Contact Person: James Wolf & Irene Paine

Address: P.O. Box 58
South Wellfleet, MA 02663

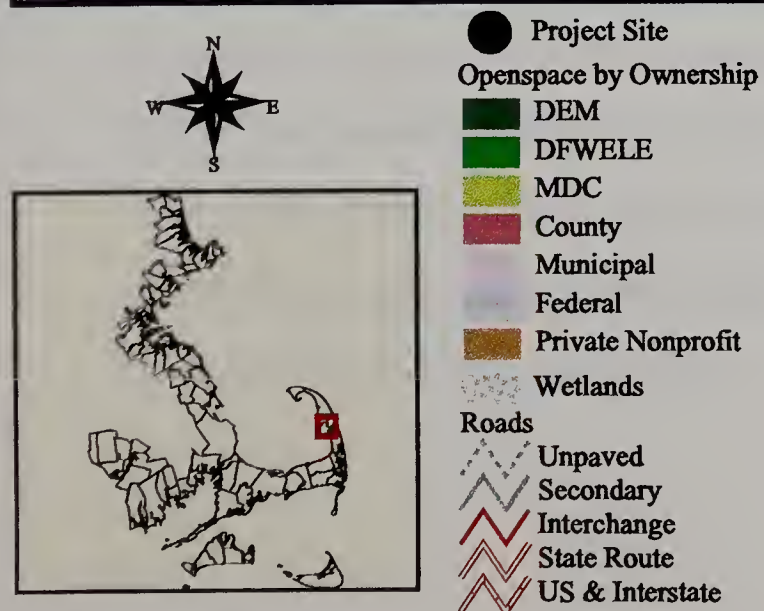
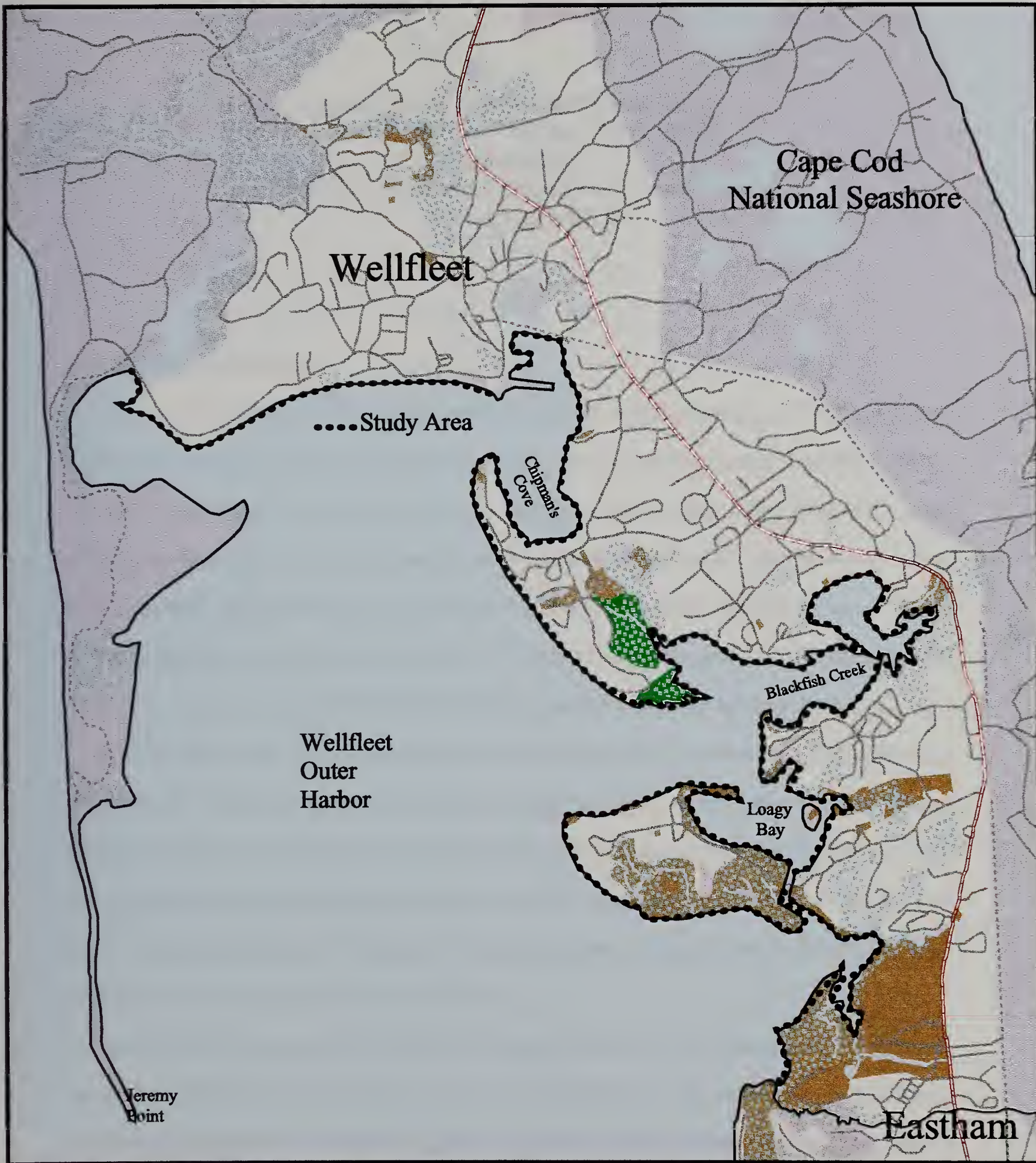
Telephone: (508) 349-3823

Summary:

The South Wellfleet Neighborhood Association developed a video that focuses on the status of Wellfleet's rights-of-way to the sea. The video provides a snapshot of the ways initially identified in local plans, including interviews and anecdotal evidence regarding the historical uses of the ways. The video is intended to stimulate public interest in preserving the public's rights-of-way to the waterfront, and is being shown on local television and other venues. Copies are available from the videographers upon request.



Photograph by Barry Donabue



South Wellfleet Neighborhood Association

"Wellfleet Ways to the Sea Video"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



Coastal Access Small Grant Final Report
Submitted by Jim Wolf and Irene Paine
On Behalf of
The South Wellfleet Neighborhood Association
November, 1997

1) **Project Description:**

We set out to make a video which would focus on Wellfleet's rights of way to the sea. Our intent was to visually document existing public coastal access opportunities as already inventoried by the town in its harbor management plan, and the Town Comprehensive Plan. The town had documented in section G of its Comprehensive Plan fifty "historic rights-of-Way to the shoreline that have been identified as of April 1991." (Primary research done by Durand Echeverria). The list included four locations on Cape Cod Bay, thirty-eight on Wellfleet Harbor, and three on the Atlantic Ocean.

We intend for this video, "Wellfleet's Ways to the Sea," to serve as a visual tool- a snapshot of conditions present at these locations in 1997. The narrated documentary format includes views of the locations from land and some water angles, interviews with local residents giving anecdotal evidence of past and present uses of the location, and post cards, photographs, and maps to provide a more complete sense of both physical and historical context for each listed location.

From the very outset of this project we became aware of the huge volume of material we had committed to including in the video. Working with members of Wellfleet's Historical Commission it became apparent that there was a perception of loss, and a strong sense that public access opportunities are particularly threatened in the present period. The general perception was that in the old days it used to be easy to access the water pretty much anywhere but, those times are gone, and we are in a period where a careful and prudent sense of stewardship must be developed if the general public is to retain its coastal access opportunities. Themes emerged which highlighted threats to

public access; the main ones being private encroachment, municipal neglect, coastal erosion, and a heightened sense of environmental protection which can conflict with the human population's desire for access. Also, there emerged a sense that the reasons for maintaining public access have changed over the centuries and that the balance between recreational uses and commercial uses is ever changing.

The video product is now in the final stages of production. In addition to the locations included on the Town Comprehensive Plan list, many more sites have been included which may prove to be valuable public access opportunities. The video is structured as a tour, beginning with a twenty-minute segment which introduces four representative access points and illuminates a variety of themes, or important issues to consider when evaluating an access point. After this introduction of issues, we begin at the northern Cape Cod Bay shore near the Truro line and proceed to visit each site. Every site on the aforementioned list is visited and referenced in order. Additional sites, not on the list, are included in geographical order. The total running time of the video is approximately ninety minutes.

The introductory twenty-minute segment of the video was previewed as a "work in progress" to a full house at the South Wellfleet Neighborhood Association on October 25, 1997. A premier showing has been scheduled for Saturday January 24, 1998, at the Wellfleet Public Library. Press coverage has been good, and along with airings of Public Service Announcements of clips from the video on the local cable access channel, public interest has reached a desirable level. (See enclosed). This media coverage during the making the video has prompted community members to contact us with new information about places we were researching, and some we had not even heard about! We have now assembled the video (visual) portion which includes all locations, and are presently at work "mastering" the narration and soundtrack.

2) **Anticipated Next Steps:**

We hope that "Wellfleet's Ways to the Sea" will stimulate the kind of interest in Wellfleet that will lead to the formation of a "Public Access Committee" as recommended in the comprehensive plan. If such a committee comes to be we hope that the video will serve as a starting point for studying, surveying, and recommending future action to protect the town's access ways. We know that it has already piqued renewed public interest in access ways.

Further, we personally intend to correspond with municipal officials on some of our findings at access points where the town's rights appear to have been usurped by property owners. We will encourage the town to spend a portion of the more than \$400,000 collected in the summer for beach access permits on the legal title searches that may be necessary to re-establish town ownership of some places. We also intend to recommend that the town post its public access points with appropriate signage so that the general public will be made better aware of its ownership and stewardship rights and responsibilities. It may be that we have uncovered leads to areas which would be good sites for public land acquisition in the future. We intend to inform the proper governmental bodies about these opportunities and make them aware of potential state funding mechanisms for enhancing public access.

3) **Timetable:**

Premier viewing of "Wellfleet's Ways to the Sea," a documentary of approximately 90 minutes running time, will be at the Wellfleet Public Library on January 24, 1998, beginning at 1:30PM

Our timetable for this project was extended because of unanticipated aspects of the work. First, although the list we worked from was in black and white on paper, many of the sites were listed as "area undetermined" or some such similar designation. Further, when we went to confirm locations with local residents, we many times were able to add another traditional access way to those which we were filming. Generally, the more people we talked to, the more "ways to the water" we filmed. Where we had expected to conclude our shooting schedule by the end of May, we actually continued filming through the summer and into the fall. Finally, although we began editing the video in August, we were slowed up by technical problems at the Public Access Television facility and also by the need to share production facility time and equipment. Although we will finish the final product later than we expected, we feel that the quality of "Wellfleet's Ways to the Sea" will make it worth the wait, and the anticipated result of public interest has already begun.

After the premier, copies of the film will be given to the town for use by appropriate committee work, the Wellfleet Public Library, and the Wellfleet Historical Society. Area schools will be offered the film at the dubbing (duplicating) cost.

4 and 5) **Visual Documentation/ Samples of End Products:**

See the video! We have sent an unfinished copy of the work in progress which includes much of the visual documentation. We have also sent you a copy of a public service announcement video which was aired on the local cable access station and, we believe, was instrumental in helping the Wellfleet Selectmen come to a decision to order the removal of a fence which blocked a turnaround at a town landing. We will send a final copy of the video to DEM upon completion. Please see enclosed Cape Codder story.

6) **Comments:**

We appreciate the creative license we were given on this project. We work best without a lot of "hand holding", but with support and advice when we need it. You seem to have found the right balance. Although we have gone over our budget, we probably never would have attempted such a film without the seed money of the DEM grant. We've always been very interested in the subject of Public Coastal Access, and you provided us with the focus and initial resources to do something grand with that interest. Thank you Geordie, John, Brianna, et al.

7) **Receipts:**

We've been keeping a log which we can make available for your inspection if you wish. Our major expenditure and investment has been of our time. We estimated that we would spend 180 hours on this video. We made the classic under-estimation of beginning documentarians. We have gone over the 450 hour mark and assuming our luck holds, have approximately 100 hours left to go in the mastering of the sound tracks. We feel that it has been worth every minute of time! We have turned down other work and put \$4,000 of our own funds into living/traveling expenses so that we could complete what we set out to do. We also taught a two-session course on "Interview Techniques" at the Public Access Television facility as an in-kind payment required for use of the equipment and facilities.

We will have receipts for video tape, dubbing of tapes, etc at the end of January, when we have completed that task.

Upon completion of the video, we plan to have it evaluated to see if we can possibly market it at some of the local bookstores to defray some of our costs and time. If we find that this is feasible, we will be donating a portion of the profits, if any, to the South Wellfleet Neighborhood Association.

1997 Coastal Access Grants Program

Project Name: **PROVINCETOWN SEA PATH EXHIBIT**

Location: **Provincetown**

Grant: **\$400**

Organization: **Pilgrim Monument Provincetown Museum**

Contact Person: **Jeffory Morris**

Address: **P.O. Box 1125, High Pole Hill
Provincetown, MA 02657-1125**

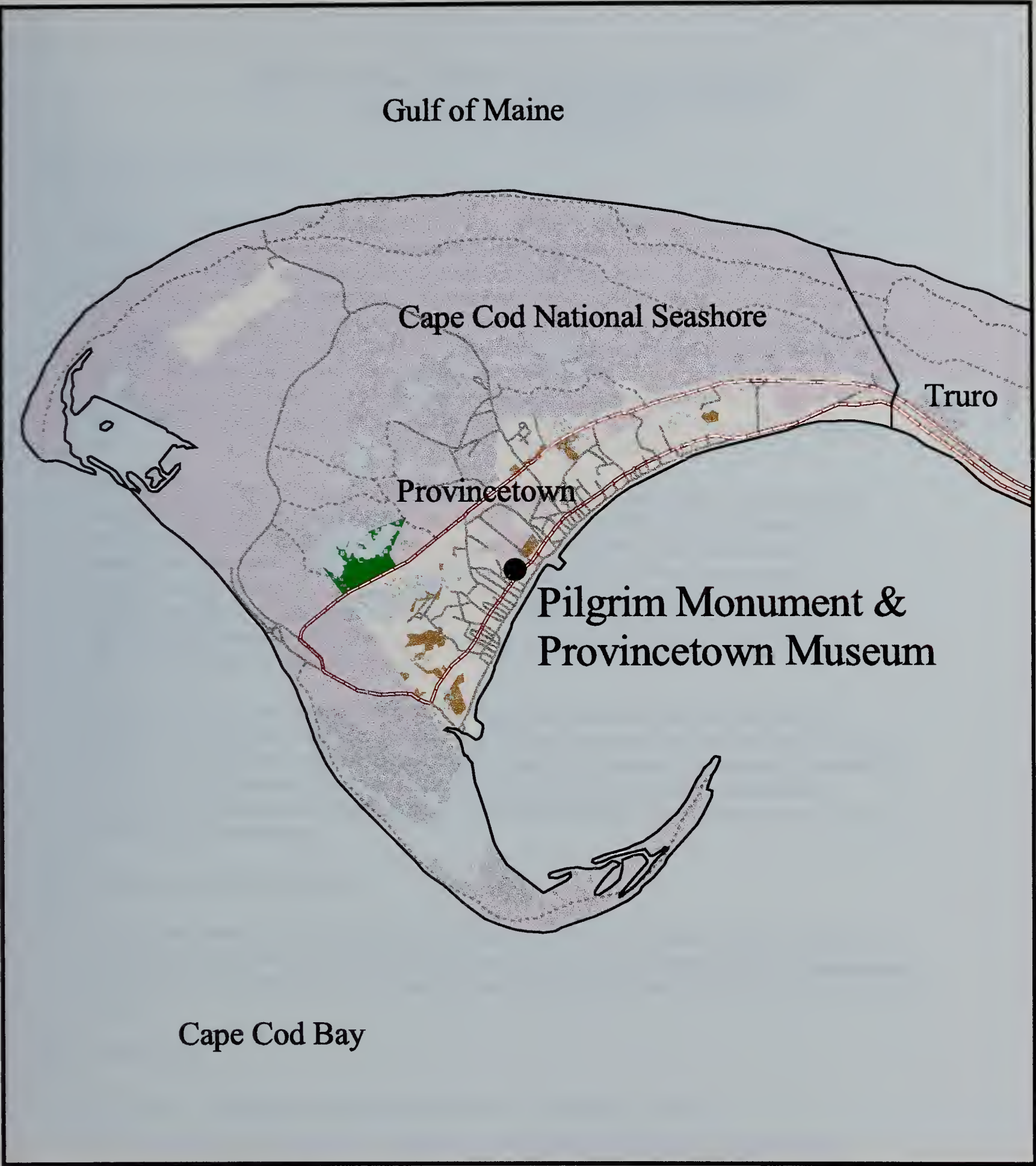
Telephone: **(508) 487-1310**

Summary:

The Pilgrim Monument & Provincetown Museum developed an exhibit that displayed archival images depicting public uses of the town's shoreline during the past three centuries. The shoreline was the original town road, used by residents as the main thoroughfare for travel and transportation of goods and services. Approximately 100,000 visitors observed the exhibit. The grant helped support photographic services and other related exhibit expenses.



*Photograph courtesy of
Pilgrim Monument & Provincetown Museum*



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Pilgrim Monument & Provincetown Museum

"Provincetown's Sea Path Exhibit"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet

1997 Coastal Access Small Grant Program

Final Narrative Report

1.) Project Description:

With the exhibit, *Provincetown's Sea Path: Historic Shoreline Access*, the Pilgrim Monument & Provincetown Museum (PM&PM) displayed images from the collection of the Cape Cod Pilgrim Memorial Association (CCPMA), that described the creation and uses of Provincetown's shoreline and the town's unique public right-of-way, known as a sea path. Sea paths are made up of the intertidal zone, the wet area between high and low tide. For numerous generations, Provincetown's harbor was the original town road, used by residents as the main thoroughfare for transportation of goods and services. It was more common for people to travel from one location to another using their dories, than it was to walk from house to house. Early homes faced the harbor with their back doors facing the street, because the harbor was considered the front yard.

In the DEM Sea Path Program Fact Sheet entitled *Provincetown Harbor: Massachusetts Original "Sea Path,"* Coastal Access Intern John Lopez stated that "The three-mile intertidal pathway in Provincetown between Howland Street and the federal breakwater has been publicly owned since 1650. Provincetown is unique within Massachusetts in that its original charter did not permit the town to convey any land within original boundaries to its settlers." The PM&PM showcased to its 100,000 visitors (1997 estimate) the development of the public legal rights to work and enjoy the intertidal zone from 1650 to today.

The grant helped defray costs of photographic services and other related exhibit expenses. Please note that this project, one, did not adversely impact the area's ecology, and two, is beneficial in the education of Provincetown residents and visitors, introducing them to the uniqueness of Provincetown's intertidal zone, as well as current issues concerning public access to the beach front in Massachusetts. The Provincetown Museum is handicapped accessible.

2.) Anticipated Next Steps:

At the conclusion of this exhibit on November 30, 1997, this exhibit will be available for state-wide circulation to schools, libraries, community centers, museums, etc. Arrangements for the loan of the exhibit can be made by contacting the Pilgrim Monument & Provincetown Museum.

3.) Timetable:

Exhibit Dates: Thursday, May 9 through Sunday, November 30, 1997

Exhibit Research and Production: Monday, March 10 through Friday, April 18, 1997

Exhibit Installation: Monday, May 5 through Thursday, May 8, 1997

4.) Visual Documentation:

Please see enclosed slide sleeve.

5.) Samples of End Products:

1997 Coastal Access Small Grant Program Final Narrative Report

The end product was the visual exhibit itself. No brochure, report, guide, or curriculum were produced.

6.) Comments:

This project would not have materialized without the initial introduction and education of museum staff to the uniqueness of Provincetown's sea path by Coastal Access Intern, John Lopez, as well as the support of Geordie Vining, Coastal Access Planner. The Members and Board of Directors of the Cape Cod Pilgrim Memorial Association, and the Staff of the Pilgrim Monument & Provincetown Museum wish to thank John and Geordie for their stellar service to our community.

7.) Receipts:

Please review enclosed copies of receipts detailing expenditures using grant funds.

1997 Coastal Access Grants Program

Project Name: MASHPEE NATIONAL WILDLIFE REFUGE
INTERPRETIVE PROJECT

Location: Mashpee & Falmouth

Grant: \$3,000

Organization: Friends of the Mashpee National Wildlife Refuge

Contact Person: Tana Watt

Address: P.O. Box 1283
Mashpee, MA 02649

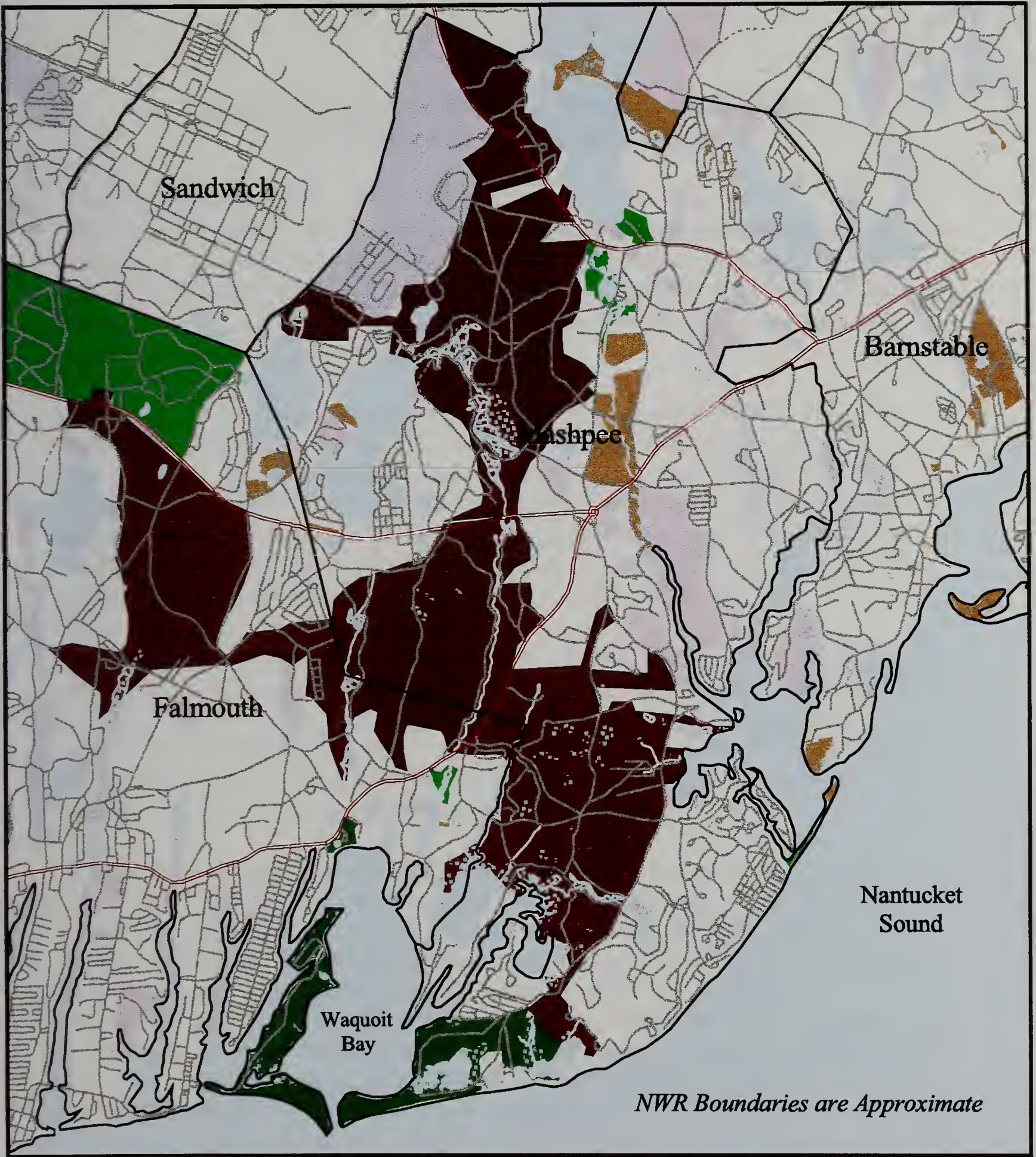
Telephone: (508) 477-3183

Summary:

The Friends of the Mashpee National Wildlife Refuge developed a map and pamphlet describing the location and resources of the Refuge, as well as produced a professional slide show describing the various types of ecosystems and recreational activities within the Mashpee National Wildlife Refuge, including shellfishing, beachgoing, hiking, birding, boating, and wetland marine life study. These educational programs and materials are increasing public awareness and support for the nascent Refuge. The grant supported staff time and materials for development of the guide and slide show.



Photograph by John Lopez



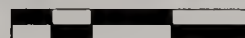
- Mashpee NWR
- Openspace by Ownership**
- DEM
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- Municipal
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- Wetlands
- Roads**
- Unpaved
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- US & Interstate

Friends of Mashpee National Wildlife Refuge

"Mashpee NWR Educational Materials"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



Mashpee National Wildlife Refuge Slide Show and Trail and Recreation Guide

Project Description and Timetable:

When we applied, we intended to use the Coastal Access Small Grants award to produce two projects about the Mashpee National Wildlife Refuge: a slide show and an eight panel, two color brochure about the Refuge. The Refuge has several locations where coastal access is possible and could be encouraged

The slide show was to consist of twenty-three slides and narrative including a description of the National Wildlife Refuge system, recreational opportunities on Refuge lands and the ecological value of open space and how it affects community character and our quality of life. As the centerpiece of the Speakers Bureau the *Friends* are establishing, the slide show is intended to be presented to interested public and private groups by members of the *Friends*.

Second, the brochure was intended to consist of text and photographs on eight panels, printed in two colors. It was intended to describe various types of recreational opportunities that are encouraged within the Mashpee National Wildlife Refuge, as well as discussion about user ethics, the National Wildlife Refuge System, and the various habitat types found within the Refuge.

Shortly after being notified that our application for grant funding from the Department of Environmental Management had been approved, the *Friends of the Mashpee National Wildlife Refuge*, a newly organized non-profit group, was given office space at Waquoit Bay National Estuarine Research Reserve, and we installed a telephone and an answering machine. We found that the majority of calls to our office were from people wondering where the Refuge was located. The Mashpee Town Planner's office also reported that they were frequently asked the same question.

With this information, we began to think that the three-fold text brochure was not what was actually needed. Rather than a brochure of photographs and text simply describing the Refuge, we thought it would be more appropriate to produce a map of the Refuge while also incorporating as much of the information promised in the grant application as possible. As we thought about it, we began to envision a four-color 18" by 24" trail and recreation guide with interspersed text about the various areas of the Refuge, including trails, habitat,

recreational opportunities, user ethics, and a description of the National Wildlife Refuge System.

I spoke to Geordie Vining, DEM Coastal Access grant administrator, describing the idea for the map/trail and recreation guide. Because it would be more costly than the original project, I asked if we could raise additional funds from local businesses to meet our goal of printing 10,000 copies. We believed this approach was in keeping with the public/private partnership that had resulted in the establishment of the Refuge itself. With Mr. Vining's consent, we proceeded in this direction.

The slide show portion of the grant remained unaffected by this change in plans. The *Friends* Education Committee began writing the narrative and obtaining slides. While many slides were taken by the members of the Education Committee themselves, we were given permission to reproduce many others that were generously offered by individuals and organizations, greatly enhancing the slide show. It currently consists of narrative and about 90 slides, more than triple the number originally planned.

The show takes viewers on a tour through the Mashpee National Wildlife Refuge. The tour visits the nine ecosystems within the Refuge. It commences on the shoreline of one of the Cape's largest bodies of water, Mashpee/Wakeby Pond, and ends at Great Flat Pond, a former saltwater embayment that has become a brackish/freshwater pond that is located within both the Refuge and South Cape Beach State Park.

Producing the trail and recreation guide, the second part of the grant, was a much more involved project than the originally proposed brochure would have been. To produce the guide, several directions were pursued simultaneously.

We began by speaking to the Refuge Partners to explain our ideas and solicit theirs. We spoke to many individually, and at a Partners meeting held in the Spring of 1997, to all of them as a group. At this meeting, a copy of the draft text was distributed to each of them for comments. Many of the Partners responded, and the text was revised accordingly.

While the text was being drafted and reviewed by the Partners, we were gathering information from Mashpee and Falmouth town

representatives, walking and driving the Refuge trails and roads to verify our information, and in some cases actually mapping trails and dirt roads.

We began seeking additional funding. We contacted *The Enterprise*, a local newspaper, and received strong support for the guide, including an editorial supporting our request for donations from local businesses. In addition, we contacted individual businesses and foundations who we thought might be interested in contributing to the project. We ultimately received grants and donations from seven contributors in addition to DEM. We were pleased that out of eight requests, seven enthusiastically responded.

As we gathered information, we provided it to the graphic designer who began creating the guide. After a draft map was ready, it was distributed to several Refuge Partners who gave comments, and it was revised. The next draft included the map, text and photographs, and it was also reviewed and revised. The final draft map was approved on September 21, 1997 and sent to the printers on September 28, 1997.

Anticipated Next Steps:

After all the maps have been distributed, it is anticipated that we will need to reprint it. As the amount of protected area within the Refuge grows and new trails are cut, the map will need to be revised to include them. This process will then undoubtedly be repeated.

General Comments:

Without the impetus for the original inspiration as well as the funding, the slide show and the trail and recreation guide for the Mashpee National Wildlife Refuge would not have occurred at this time or in this form. The *Friends of the Mashpee National Wildlife Refuge* would like to thank DEM for the opportunity your grant provided to produce a project that not only meets DEM's goal to improve coastal access, but also the goal of the *Friends* to increase public awareness of the Refuge.

DEM funding for this project gave us the leverage to solicit additional funding to meet our goals of printing 10,000 copies of the trail and recreation guide and creating a slide show about the Refuge. The grant award by DEM gave our project credibility, and this in turn contributed to the overwhelming support our project received from the business community. As seed money for a public/private

partnership with the business community, the DEM Coastal Access Small Grant more than doubled in value!

We would also like to compliment the administrator of this grant, Geordie Vining, for his support of our project and his responsiveness to our changing needs. We appreciate his assistance very much.

With special thanks to the following individuals and organizations:

Slide Show Committee:

Renee King Fudala, Friends of the Mashpee National Wildlife Refuge
Robert K. Nelson, Friends of the Mashpee National Wildlife Refuge
Chris Brothers, Friends of the Mashpee National Wildlife Refuge
Mary Jane Conary, Friends of the Mashpee National Wildlife Refuge

Slide Contributors:

Chris Brothers, Friends of the Mashpee National Wildlife Refuge
Cape Cod Commission
Mario DeGregorio, Sabatia
Renee King Fudala, Friends of the Mashpee National Wildlife Refuge
Mashpee Planning Department
Massachusetts National Heritage & Endangered Species Program
Robert K. Nelson, Friends of the Mashpee National Wildlife Refuge
Blair Nikula, Cape Cod Bird Club
Francis Smith, Trouts Unlimited
Tom Stone, Woods Hole Research Center
Thornton W. Burgess Society
Waquoit Bay National Estuarine Research Reserve

Brochure Committee:

Tana Watt, Friends of the Mashpee National Wildlife Refuge
Wendy Williams, Friends of the Mashpee National Wildlife Refuge

Brochure Contributors:

C. John Berg, Falmouth Public Access & Open Space Committee
Brian Currie, Falmouth Town Planner
Bill Davis, Massachusetts Division of Fisheries and Wildlife
Thomas Fudala, Mashpee Town Planner
Christine Gault, Waquoit Bay National Estuarine Research Reserve
George Green, Mashpee Conservation Commission
Jim Hanks, Falmouth Rod and Gun Club
Steve Hurley, Massachusetts Division of Fisheries and Wildlife
Francis LeBaron, Friends of the Mashpee National Wildlife Refuge

Vernon Lopez, Mashpee Wampanoag Tribal Council
Carl Monce, Orenda Wildlife Land Trust
Ed Moses, U.S. Fish and Wildlife Service
David Palmer, Friends of the Mashpee National Wildlife Refuge
Mark Patton, Falmouth Director of Natural Resources
John Post, Massachusetts Division of Fisheries and Wildlife
Dick Turner, Crane Wildlife Management Area

Brochure Funding Contributors:

Cape Cod Five Cents Savings Bank
Cape Cod Rehabilitation
Department of Environmental Management
The Edward Bangs Kelley and Elza Kelley Foundation, Incorporated
The Enterprise
Mashpee Commons
Nynex
Trans Flow, Inc.

Mashpee National Wildlife Refuge

Slide Presentation

Slide Description

Script

1. Title slide with graphic Mashpee NWR

Introductory remarks: Pleasure to be with you. Introduce yourself. The purpose of this presentation is to inform you about one of the nation's newest wildlife refuges, the Mashpee National Wildlife Refuge, how this refuge is unique, and why it is important to our community and to Cape Cod. First I would like to give you a quick overview of the National Wildlife Refuge System.

2. US NWR system

The National Wildlife Refuge System is overseen by the Fish and Wildlife Service of the U.S. Department of the Interior. It is the only array of federal lands and waters set aside primarily for the benefit of wildlife and the preservation of native plant life. There are more than 500 wildlife refuges at the moment, including at least one in every state and several in overseas possessions, and new units are being added each year.

There are nearly 90 million acres inside refuge boundaries and another 3.3 million acres of lands set aside specifically for water fowl or managed in cooperation with state agencies to protect key habitats. The national system covers close to 4 percent of the surface area of the United States and is larger than our National Park System and just as spectacular in many ways.

3. NWR system founder

In 1903, as market hunters supplying plumes to the fashion trade raked Florida's breeding bird colonies with gunfire, President Theodore Roosevelt asked an assistant, "is there any law that will prevent me from declaring Pelican Island a federal bird reservation?" The answer was no. "Very well, then, I so declare it." That marked the beginning of what would become the most comprehensive network of nature protection in this country or anywhere in the world: the National Wildlife Refuge System. During his two terms in the White House, Roosevelt established more than 50 wildlife refuges. He also protected enough other public domain lands to provide space for future refuges, along with our national park and forest systems. New additions to the refuge system came slowly, and the Dust Bowl years of the 1930's sent populations of many migratory birds plummeting. In response, Congress passed the 1934 Duck Stamp Act, which tacked a conservation fee onto waterfowl hunters' licenses. At last, the Fish and Wildlife Service had enough

revenue to start methodically acquiring wetlands up and down the four major bird migration flyways. The number of refuges jumped dramatically. With the passage in 1980 of the Alaska National Interest Lands Conservation Act, both the refuge and park systems doubled in size. Although 96 percent of all refuge units are outside Alaska, the 49th state contains 83 percent of the total acreage in the refuge system.

4. Refuge success stories

The 1973 Endangered Species Act spurred refuges to pay attention to a broader array of flora and fauna. The system currently harbors 168 threatened or endangered species. Over a fifth of all U.S. plants and animals are listed as threatened or endangered species. The national refuge system provides habitat for 700 species of birds, 220 mammals, 250 reptiles and amphibians, 200 fish, and countless species of plants. Today, Teddy Roosevelt would be proud to observe Pelican Island, its mangrove branches thick with brown pelicans, ibises, egrets, and herons. Each spring the island is crowded with colonies of a dozen different nesting species, including endangered wood storks.

The American bison, nearly extinct in the late 1800's now flourish at Fort Niobrara National Wildlife Refuge. This is an early success story that began with a Nebraska rancher donating six bison in 1912. Healthy numbers now allow surplus animals to be auctioned.

More recently, urban refuges have been established that offer breathing space for animals and humans on the doorstep of San Francisco, New Orleans, Philadelphia, and Washington, D. C.

5. Mashpee NWR

Let's turn now to our local wildlife refuge. The Mashpee National Wildlife Refuge was established in 1995. It presently includes nearly 6,000 acres of land in Mashpee and Falmouth within its boundaries. The refuge was founded through the cooperative efforts of 9 groups, forming a unique partnership.

6. Refuge partners

These groups include (list members): This partnership approach provides a model for how future refuges could be established and managed, especially given reduced federal budgets.

7. Map of Mashpee NWR

At the time of its establishment, approximately 5,800 acres were included within its boundaries. Of this total, 2,037 acres were publicly owned. These parcels included 735 acres owned by the Commonwealth of Massachusetts, 1007 by the Town of Mashpee, and 295 by the Town of Falmouth. Another

417 acres were privately owned but subject to conservation restrictions. This left 3366 acres of privately owned and unprotected land at that time. Since the establishment of the refuge, steps have been taken to acquire 430 acres of this unprotected land for inclusion within the refuge.

8. One-of-a-kind-refuge

We can be particularly proud of the Mashpee National Wildlife Refuge because of the diversity of habitats it protects. It is a stop over in the migratory path of many birds, and many beach nesting birds use the sandy stretches for nesting and for raising their young. A variety of bird, fish, and amphibian species breed in the tidal and freshwater marshes, and many birds, mammals, and invertebrates live in the upland pine barrens and oak woodlands. A number of threatened and endangered plants and animals also find protection within the Refuge. Indeed, several habitats themselves within the refuge are considered threatened habitats including Atlantic white cedar swamp and sandplain grassland.

9. Aerial photo of refuge

Lands within the refuge help to protect valuable groundwater resources, and they provide residents and visitors alike the chance to enjoy birdwatching, canoeing, hiking, fishing, shellfishing, and exploring.

10. Jehu Pond sign

In this program, we'll take a tour through some of the habitats and protected lands found in the Mashpee National Wildlife Refuge. Starting with the shoreline of one of the Cape's largest bodies of water, Mashpee-Wakeby Pond, we'll travel south along the Child's and Quashnet Rivers, past cranberry bogs and cedar swamps, through the South Mashpee Pine Barrens, and finish with the fresh and saltwater marshes that line the coast.

11. John's Pond

Cape Cod is known for its kettle ponds. These ponds are remnants of the last ice age. Great chunks of ice left behind by the glaciers as they retreated eventually melted leaving large depressions in the glacially deposited sediments. Kettle ponds in Mashpee today are filled by groundwater and their water levels change with rainfall and snowmelt.

12. Cardinal flower

These ponds are essential to plants and animals alike. They supply drinking water, food, and breeding areas. Common plants along the pond shoreline include cardinal flower, pickerel weed, and cattail.

13. Water lily	Other plants float on the water's surface from the tiny leaves of duckweed to the familiar white or pink flowers of water lilies.
14. Pepperbush	Sweet pepperbush and Swamp azalea along the pond shores flower in June.
15. Pickeral frog	Ponds are breeding areas for amphibians including green, pickeral, and bull frogs.
16. Snapping turtle	Snapping turtles and painted turtles are common residents. Black ducks, kingfishers, tree swallows, and muskrats can all be spotted by visitors to ponds within the Refuge.
17. Pond in fall	Most kettle ponds on Cape Cod were originally nutrient-poor, or oligotrophic. With their small watersheds and surrounded by soils that were poor in nutrients, the ponds had low nitrogen and phosphorous levels. Little algae or plankton grew in these ponds. As a result their waters were extremely clear. Such ponds often support a large diversity of fish species and are very scenic.
18. Road runoff	Unfortunately, no ponds in Mashpee have survived in this state. Nitrogen and phosphorous levels have both increased due to development near the ponds. Septic systems, road drainage, and fertilized lawns and gardens all leach nutrients into the groundwater that feeds the ponds or directly into the ponds themselves as storm runoff. This increased nutrient load has decreased water quality and increased the growth of plankton and blue green algae.
19. Mashpee-Wakeby Pond	Mashpee-Wakeby Pond is one of the Cape's largest bodies of water. This pond is also very deep, reaching depths of 87 feet. It lies just at the edge of the boundaries of the refuge.
20. Moody Pond	Moody Pond is the largest totally undeveloped freshwater pond within the refuge. Tree swallows nest along its banks, and its shores are also a great

21. Dragonfly	place to look for dragonflies and damselflies, including some unusual species.
22. John's Pond	Southwest of Moody Pond is John's Pond which is the headwaters for both the Child's and Quashnet Rivers. These are the two primary rivers within the refuge.
23. Fish ladder	The Quashnet River leaves John's Pond through a fish ladder at its northwest corner and flows through both active and abandoned cranberry bogs.
24. Cranberry bog	These bogs were once part of the "world's longest cranberry bog." Much of the bog was destroyed by hurricanes in the early 1950's, and the portion south of Route 151 was purchased by the State Division of Fisheries and Wildlife.
25. 1953 Trout fisherman	The bog operations had destroyed what was once a nationally famous sea-run trout fishery.
26, 27, 28. People working on trout restoration (3 slides)	In the mid 1970's, the local chapter of Trout Unlimited began an effort to restore the trout fishery. This effort continues to this day and has become a nationally recognized example of habitat restoration.
29. Aerial view Quashnet River	The Quashnet River also provides a corridor for deer movement extending from the Massachusetts Military Reservation towards South Cape Beach State Park.
30. Quashnet River	Rivers and streams offer edge habitat, a wildlife-rich interface between land and water. For wildlife, riverine areas offer cover, access to drinking water, protected sites for dens and nests, and sunny open areas for fruit-producing shrubs.

31. Dragonfly	The water at times teems with insect life—caddisfly larvae, water striders, and mayfly and dragonfly nymphs. These insects provide food for fish, frogs and turtles, which in turn are preyed upon by kingfishers, herons, osprey, raccoons, mink, and otter.
32. Raccoon tracks	A summer walker along one of the refuge's rivers is sure to glimpse one or more of these species or perhaps their tracks left behind in the mud.
33, 34. Cranberry harvesting (2 slides)	Active and abandoned cranberry bogs dot the land within the Mashpee National Wildlife Refuge, especially along the Child's, Quashnet, and Santuit Rivers, and Quaker Run.
35. Cranberry flowers	In 1951 there were 392 acres of commercial cranberry bogs within Mashpee. Today, 149 acres of bogs are still in production.
36. Red maple	Abandoned bogs are following the course of natural succession from agriculture to wet meadows to shrub swamps. Plants found in these slowly changing habitats include sedges, rushes, ferns, violets, Iris, cattail, and red maples.
37. Pogonia	Abandoned bogs are also good places to look for a vareity of orchids like this Pogonia orchid.
38. Vernal pool	Vernal pools are another wetland habitat found scattered throughout the refuge. These small, temporary pools of water form in poorly drained areas and shallow depressions, filling with snow melt, rainwater, or high groundwater.
39. Tadpole	Because they contain no fish, they are ideal breeding grounds for many species of amphibians including wood frogs. Spotted turtles can be found sunning themselves on logs in the shallow ponds.

- | | |
|-------------------------------------|--|
| 40. Spotted salamander | A visitor to one of these pools on a warm wet night in March might be lucky enough to see mating congresses of spotted salamanders or later their grape cluster-like egg masses. |
| 41. People walking in pine barrens | The Mashpee National Wildlife Refuge protects a diversity of habitats, sheltering both common and rare plant and wildlife species. As Cape Codders, we tend to overlook some of these habitats which seem everyday to us, but several are in fact rare in New England and even rare on a global scale. |
| 42. Pitch pine and Shrub oak | The Pitch Pine/Scrub Oak Barren community is a good example. This unique plant community occurs on sandy, outwash plains left behind by the glaciers. It is found only in coastal areas from Massachusetts to New York. |
| 43. Broom Crowberry | In Mashpee, this habitat can be found in the South Mashpee Pine Barrens, one of the last intact pine barrens in the state. The Town of Mashpee and the Massachusetts Natural Heritage and Endangered Species Program acquired over 300 acres to protect a number of rare or threatened species found in the Barrens such as Broom crowberry. |
| 44. Pitch pine cones | Pitch Pine trees define the pine barrens habitat. They form an open canopy above a dense, impenetrable understory of shrub oaks and huckleberry. |
| 45. Pitch pine fire in pine barrens | Pitch Pines are salt and wind resistant and have been planted in many parts of the Cape Cod to hold eroding soils. Periodic fires maintain the successional balance between pine and oak by encouraging germination and sprouting of the fire-adapted Pitch Pine. Without fires, tree oaks eventually overtake and shade out the pines and shrub oaks. |
| 46. Bearberry | Bearberry grows as an evergreen carpet across the forest floor. This plant, is often used for erosion control on sandy banks. At one time, it was a source of food for black bears which have been extirpated from Cape Cod. |

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|--------------------------------|--|
| 47. Hudsonia | Hudsonia, also known as poverty grass or golden heather, blooms yellow in the spring, brightening the forest floor in the pine barrens. |
| 48. Whip-poor-will | Whip-poor-wills nest here, and areas of the refuge provide birders the chance to hear the strange calls of these birds on May evenings as they try to attract mates. Throughout the state, these ground-nesting birds are in decline as their nesting areas are developed and urbanized, and their young are increasingly exposed to predation by cats and dogs. |
| 49. Box turtle | Box turtles, listed as a species of special concern in Massachusetts, are common in the Pitch Pine woods of Cape Cod, but their numbers are decreasing throughout the state. These reptiles may live more than a hundred years, yet most seldom venture beyond their football field-sized territory. |
| 50. Pine barrens buck moth | The rarest inhabitant of this community is the Pine Barrens Buck Moth, a state-listed endangered species. It is believed that a twenty-five year fire cycle is required to preserve the buck moth's habitat. |
| 51. Atlantic white cedar swamp | Interspersed within the Pine Barrens are Atlantic white cedar swamps. These habitats are rare even on Cape Cod. Small pockets of these forested wetlands occur in Wellfleet within the Cape Cod National Seashore, in Eastham, and within the Mashpee National Wildlife Refuge. |
| 52. Leatherleaf bog | Many former cedar swamps have been converted to cranberry bogs or other agricultural uses, filled for development, or harvested for cedar shingles and logs. |
| 53. Cedars | Majestic Atlantic White Cedars tower above a shrub layer of blueberry and red maple. |

54. Sphagnum moss	Below lies a thick, spongy, green mat of wet sphagnum moss.
55. Leatherleaf	Leatherleaf thrives in the acidic, tea-colored waters of the swamp. This oligate wetland plant, related to blueberry, has beautiful bell-shaped flowers.
56. Parula warbler	Old Man's Beard Lichen hanging abundantly from the cedars provides nesting material for Parula warblers. Within Massachusetts, these rare, beautiful slate blue birds breed only in a few locations on Cape Cod and possibly Martha's Vineyard. Although it has not been found within the refuge, this warbler does nest along the Mashpee River.
57. Saw whet owl	More than 40 species of birds nest in Massachusetts swamps. Others that can be found within Atlantic White Cedar swamps include Common Yellowthroat, Canada Warblers, and Wood ducks. Saw Whet owls feed in and seek cover in swamps in winter.
58. Spotted turtle	Rare species found within Atlantic White Cedar Swamps include Hessel's Hairstreak, an insect, and Spotted turtles, a species of special concern. Spotted turtles are very elusive and enjoy quiet, undisturbed areas.
59. Hamblin's Pond	Two small streams arise in the Pine Barrens, Dutchman's Creek and Red Brook, whose former cranberry bogs, now flooded, provide ideal habitat for waterfowl and songbirds. Red brook flows to Hamblins Pond which is surrounded by extensive saltmarshes.
60. Dutchman's Creek	Dutchman's Creek flows through a large area of varied habitats recently purchased from the Bufflehead Bay Nominee Trust, the first major Federal purchase within the Refuge.
61. Abigail's Brook	The Bufflehead property includes over 300 acres of pine/oak forests, shrub swamps, vernal pools, Atlantic white cedar swamps, abandoned cranberry bogs, and saltmarshes along Abigail's Brook which flows through the property to Great River and Waquoit Bay.

62. Great Flat Pond	The refuge's boundaries then extend south to South Cape Beach State Park and Great Flat Pond, a former salt water embayment whose mouth was cut off from the sea in the 1850's. It has now become a brackish pond surrounded by extensive cattail marshes and is home to large populations of waterfowl and a variety of fish species.
63. Cattail	Rivers and marshes on Cape Cod show a gradual transition from freshwater to brackish to saltwater. Freshwater marshes on Cape Cod are dominated by cattails. Their borders are edged by red maple and tupelo which turn brilliant scarlet in the fall.
64. Phragmites	Cattail gives way to Phragmites, or common reed, which in turn is replaced by saltmarsh grasses as the influence of the ocean's tides is felt in the marsh. Phragmites is an invasive plant usually found in wetlands that have been disturbed. It is intensively managed in some conservation areas.
65. Jehu Cove saltmarsh	Saltmarshes are bathed twice daily during high tides with nutrient rich tidal waters. These nutrients contribute to the extremely high productivity of the saltmarsh. An acre of saltmarsh produces ten tons of organic matter per year, more that twice as productive as our most productive farmlands.
66. Horseshoe crabs	The saltmarshes are nurseries for marine invertebrates and other aquatic life, many of which breed in or feed in the marshes.
67. Herring	Two thirds of the commercially important fish species produced in the North Atlantic depend on a saltmarsh at some point in their life cycle. Herring, an anadramous fish, spends most of its life in salt water but must return to freshwater to spawn.
68. Dowitchers in marsh	Saltmarshes provide essential feeding areas for shorebirds and waterfowl, especially during their fall migration.

69. Green heron	In the summer, herons and egrets feed on killifish in the tide pools and creeks. Ospreys nest and feed in the saltmarshes and nearby bays while Northern harriers catch meadow voles in the higher, dryer parts of the marsh.
70. Killifish	Killifish are important natural mosquito controllers and are an essential link in saltmarsh food chains.
71, 72. Fiddler crabs (2 slides)	The low, wet marsh is inhabited by numerous species of shellfish and crabs including an astounding one million fiddler crabs per acre. These species must be well adapted for the extremes of temperature and salinity they face as they are alternately covered by sea water and exposed to the air.
73. Salt spray rose	Typical plants of the saltmarsh include saltmarsh hay and cord grass, salt spray rose,
74. Sea lavender	sea lavender,
75. High tide bush	High tide bush, or Groundsel, which flowers in the fall,
76. Salicornia	and salicornia, also known as glasswort or sea pickle.
77. Eroding marsh	The trelliswork of rivers and streams draining upland areas acts as a circulatory system of the land, carrying eroded soils and decaying vegetation to downstream marshes. Freshwater and saltwater marshes act as giant filtering systems slowing the flow of water, trapping sediments, and taking up nutrients for plant growth.
78. Septic tank	Agricultural and road runoff, lawn pesticides and fertilizers, and sewage and nutrients from septic tanks carried by rivers and streams pass through the marsh and are filtered from the water. Both fresh and saltwater marshes, improve the quality of water before it reaches groundwater or estuaries.

79. View of marsh	Despite their ecological and economic values, and estimated 30 to 50 percent of the saltmarshes in the northeastern United States have been lost to diking, draining, and development.
80. Aerial view of Waquoit Bay	Lands within the refuge protect these valuable ecosystems and provide people with access to coastal areas to enjoy.
81. Development	During the 1980's, Mashpee was the fastest growing community in New England with a population growth rate of 113%. During this same time, Falmouth was ranked as the fourth fastest growing community in Massachusetts, and over 1000 acres of land within the town was developed.
82. Golf course	With growing populations and increased development come more pressures on wildlife and their habitats,
83. Blazing star	on rare plant species,
84. Holland Mills well	and on clean groundwater resources.
85. Mashpee-Falmouth line	We are indeed fortunate to be able to protect land and waters within these two towns as the Mashpee National Wildlife Refuge for the benefit of the plants,
86. Osprey on nest	wildlife, and
87. People at coast	people who make this land their home.

88. People canoeing

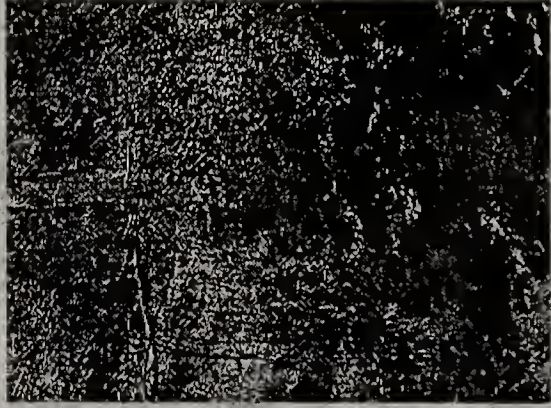
We encourage you to enjoy the lands and waters within the Mashpee National Wildlife Refuge. The Seconsett Island Causeway offers easy access to shellfishing and fishing areas. Hike the Pine Barrens on a Spring afternoon. Watch herons in the marshes of Jehu Pond. Or, launch a canoe from Punkhorn Point and explore the beautiful Mashpee River.

89. Credit slide

We would like to thank the Department of Environmental Management Coastal Access Grant Program for funding this program and the following people for their generous contributions of photographs for the program.

This slide program was developed by Chris Brothers, Renée King-Fudala, and Mary Jane Conary.

The Mashpee National Wildlife Refuge



R. K. Nelson

The US National Wildlife Refuge System

- 92.3 Million Acres
- Over 500 Wildlife Refuges
- At Least One In Every State
- The Refuge System Covers 4% of the U.S.
- Managed by the US Fish & Wildlife Service

National Wildlife Refuge System

Founder: Theodore Roosevelt

- Founded in 1903 with Pelican Island Declared as a Federal Bird Reservation
- Theodore Roosevelt Established Over 50 Wildlife Refuges
- 1934 Duck Stamp Act
- 1980 Alaska National Interest Lands Conservation Act

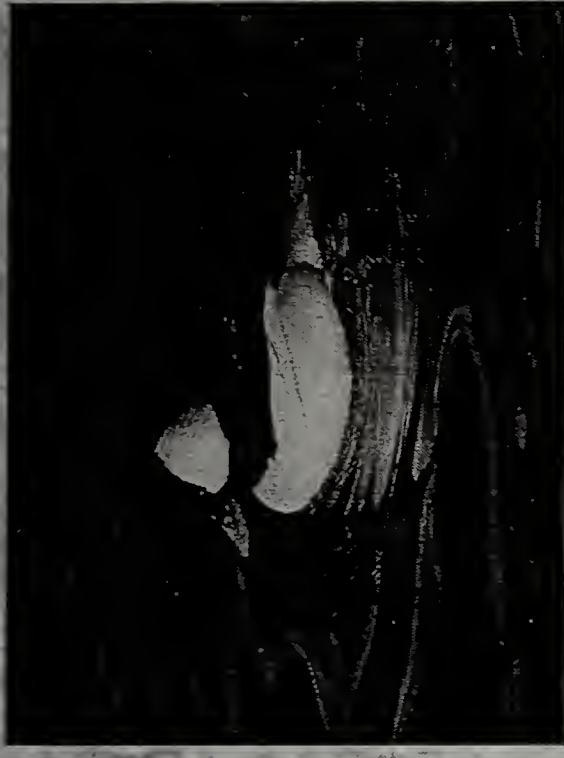
Refuge Success Stories

- The U.S. National Wildlife Refuge System Protects 168 Threatened or Endangered Species
- Pelican Island
- American Bison
- Urban Refuges



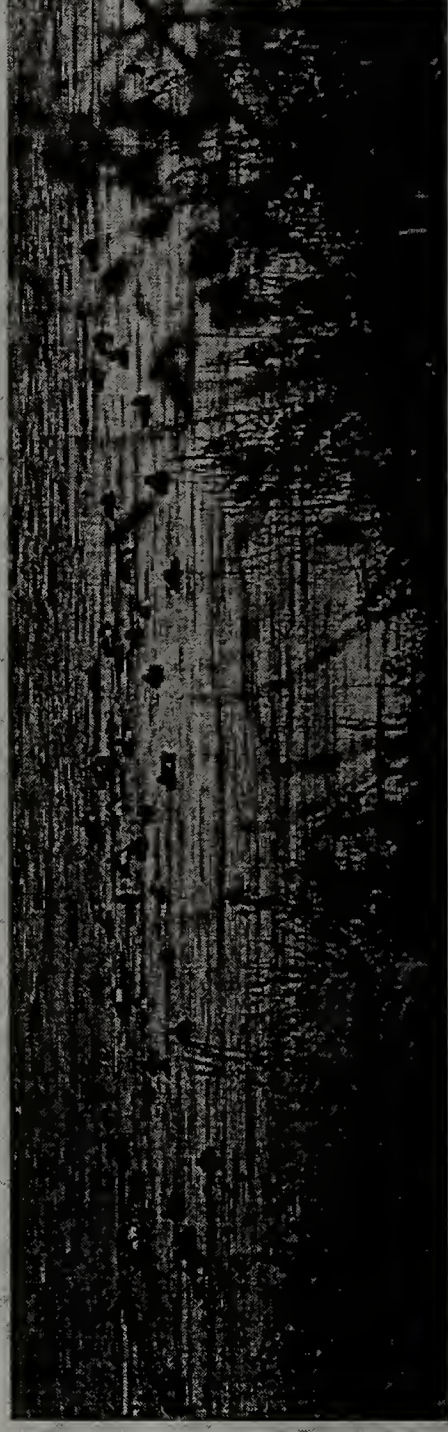
The Refuge Partners:

- *U.S. Fish & Wildlife Service*
- *Massachusetts Executive Office of Environmental Affairs*
- *Mass. D.E.M. / Waquoit Bay National Estuarine Research Reserve*
- *Massachusetts Division of Fisheries & Wildlife*
- *Town of Mashpee/Mashpee Conservation Commission*
- *Town of Falmouth/Falmouth Conservation Commission*
- *The Mashpee Wampanoag Indian Tribal Council*
- *The Orenda Wildlife Trust*
- *The Falmouth Rod & Gun Club*



The Mashpee National Wildlife Refuge

- Established in 1995
- Encompasses Nearly 6,000 Acres in Falmouth and Mashpee
- Founded Through a Unique Partnership
- A National Model for Future Wildlife Refuges



Birds-eye view of the Mashpee National Wildlife Refuge

(LandSat Image courtesy of the Woods Hole Research Center)



R. K. Nelson



One-Of-A-Kind Refuge

- Diverse Ecosystem Not Represented Nationally
- Encompasses Unique Fish and Wildlife Habitat
- Stop-over Point for Migratory Birds on the Atlantic Flyway
- Refuge for Threatened and Endangered Plants and Animals



R. K. Nelson

This Slide Show Presentation was made possible by the Department of

Environmental Management's Coastal Access Grant Program.

The Friends would like to thank the following persons/organizations for generously allowing the reproduction of their slides.

- Chris Brothers
- Mario DiGregorio, Sabatia
- Renee King Fudala
- Robert K. Nelson
- Massachusetts National Heritage & Endangered Species Program
- Francis Smith, Trout Unlimited
- Blair Nikula, Cape Cod Bird Club
- Thornton W. Burgess Society
- Waquoit Bay National Estuarine Research Reserve
- Tom Stone, Woods Hole Research Center

The Mashpee Enterprise

MARGARET HOUGH RUSSELL
WILLIAM HENRY HOUGH
Editors and Publishers

JANICE WALFORD
Managing Editor

GEORGE ANTHONY HOUGH JR.
CLARA SHARPE HOUGH
Publishers 1929 - 1976
JOHN TALCOTT HOUGH
Publisher 1976 - 1992

The Enterprise newspapers have been serving the Upper Cape since 1895.
The newspaper was originally established as The Falmouth Local in 1886.
The Local was the successor to Barnstable County's first newspaper,
The Nautical Intelligencer, founded in Falmouth in 1823.
The Mashpee Enterprise is an edition of The Enterprise, Falmouth.

Businesses Asked To Help Refuge

The Mashpee National Wildlife Refuge is premised on a most unusual public-private partnership, one that will need a helping hand occasionally.

Bringing together the nine public and private agencies to manage and protect the 5,700+ acres that will eventually be within the refuge set a precedent for the nation. Since the Mashpee refuge was inaugurated in 1995, several similar partnerships have been established across the country, including one along the Connecticut River.

Mashpee and Falmouth residents joined forces to form Friends of the Mashpee National Wildlife Refuge, a non-profit organization that offers various levels of support to the nine members of the partnership: U.S. Fish and Wildlife Service, the state Office of Environmental Affairs, the state Department of Environmental Management/Waquoit Bay National Estuarine Research Reserve, the state Division of Fisheries and Wildlife, Mashpee and Falmouth's Conservation Commissions, the Mashpee Wampanoag Indian Tribal Council, the Orenda Wildlife Trust, and the Falmouth Rod and Gun Club.

Associate Coordinator of the Friends Tanya Watt says the nine partners "are

leaders and we are here to support their efforts." Getting information about the refuge into the hands of visitors interested in the environment (known as green tourists) is an important first step. To this end, the Friends were successful in obtaining a \$3,000 grant from the Department of Environmental Management to develop a brochure. Ms. Watt says the grant will pay for the design of the brochure and for some, but not all, of the printing costs.

"We hope to make up the shortfall through contributions from local businesses," Ms. Watt says. In return for the help, a company's name will be listed on the back of the brochure under the banner "Refuge-Friendly Local Businesses." Checks should be made payable to Friends of the Mashpee National Wildlife Refuge (marked "brochure" in the lower left-hand corner) and mailed to P.O. Box 1283, Mashpee, 02649.

Helping the refuge helps the environment and the local economy. This is a most worthy cause. Being listed on the brochure will be great advertising for firms and will help boost the image of all those businesses concerned about the community's role in this historic undertaking.

Refuge Friends Given Grant To Develop Trail Guides

By PAUL D. OTT

The Friends of the Mashpee National Wildlife Refuge has received a \$3,000 grant from the Massachusetts Department of Environmental Management to use toward the creation of a trail and recreational guide for the refuge.

DEM Commissioner Peter C. Webber and Secretary of Environmental Affairs Trudy Coxé made a presentation of Coastal Access Small Grants to various towns, nonprofit groups and regional planning agencies on Monday morning at the Thornton Burgess Society's Green Briar Nature Center in Sandwich.

Tana S. Watt, who is an associate coordinator for the Friends of the Mashpee National Wildlife Refuge, said the organization will use the grant and \$2,500 in donations toward a trail and recreational guide.

With another \$500 to \$1,000 in donations, Ms. Watt said, the organization hopes to publish 10,000 guides. As a requirement of the grant, the project must be completed by September.

Ms. Watt said the Friends group had planned initially to create a brochure that would provide people with information on the different habitats in the refuge and the way to use the land respectfully in the refuge.

However, the group decided instead to seek the grant to create a brochure to publicize the trails within the refuge, because many of the calls it receives are from people who want to know the location of the refuge and who want a list of activities for the site, Ms. Watt said.

She said anyone who wants a copy of the trail guide can call the office of the Friends organization at 508-495-1702 and leave their name and mailing address. The guides will be sent when they have been completed.

Noting the creation and publication of the guides is being funded with public and private contributions, Ms. Watt further noted that approach mirrors the unique partnership between public agencies and private property owners that led to the creation of the refuge in Mashpee and Falmouth.

To date, she said, the Friends of the Mashpee National Wildlife Refuge has received \$2,525 in donations for the trail and recreational guides from the Edward Bangs Kelley and Elza Kelley Foundation of Hyannis, Mashpee Commons, The Mashpee Enterprise Community Fund, and NYNEX. The Kelley Foundation alone donated \$1,000.

Ms. Watt is hopeful some more

Continued on Page 10

Mashpee Enterprise

MARGARET HOUGH RUSSELL
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Refuge Friends Given Grant To Develop Trail Guides

Continued from Page One

local businesses will support the Friends group so it can meet its goal of publishing 10,000 of the trail and recreational guides.

The Friends of the Mashpee National Wildlife Refuge was one of 26 groups to receive a Coastal Access Small Grant this year from the state. Of the 26 grants awarded this year, seven went for projects on Cape Cod.

Falmouth received a \$3,000 grant to purchase four surf chairs for use by handicapped people at the three of its most popular 10 town beaches.

"The grants program is based upon the principle that the Massachusetts coastline should be as open, accessible and approachable as possible for all citizens and visitors," according to Ms. Coxé. "The annual grants are helping to build a coherent grassroots network that is actively engaged in working towards this goal."

Among the dignitaries on hand for the presentation Monday were Senator Henri S. Rauschenbach (R-Brewster), Representative Thomas S. Cahir (D-Bourne), and Representative Shirley A. Gomes (R-Harwich).

The Bufflehead Banner

Published by the Friends of the Mashpee National Wildlife Refuge
Mashpee / Falmouth, Cape Cod

Spring 1997 Issue 3 To Protect and Enhance the Environment for Wildlife, Habitat and People

Gain and Loss Within the Refuge



In the lead article in the last issue of our newsletter we discussed the status of land acquisitions within the Refuge. We reported that in 1996 approximately 400 acres had been protected. In fact, with the pending purchase of the *entire* 327 acres of property commonly known as Bufflehead Bay, the total is actually closer to 664 acres.

At fall Town meeting in 1996, Mashpee residents voted to contribute \$250,000 toward the purchase of a portion of the property owned by the Bufflehead Bay Nominee Trust so long as the state contributed at least \$250,000 as well. On December 24, 1996, Trudy Coxe, Secretary of Environmental Affairs, traveled to Mashpee to announce that the State

had approved a Self-Help Grant of \$270,000 as their portion of the purchase price. As a result, the total contributed by the Town and State for 47.1 acres is \$520,000. The property will be owned by the Town of Mashpee and will be called the Jehu Pond Conservation Area.

The entire 327 acres will be purchased in mid-March 1997 by the Trust for Public Land. The Town will then purchase the above-mentioned 47.1 acres and the U.S. Fish and Wildlife Service will purchase a large portion of the remaining 280 acres. The Trust for Public Land will continue to hold 15% of the property until such time as the U.S. Fish and Wildlife Service can complete the purchase.

The Bufflehead Bay Nominee Trust property abuts a 30.5 acre parcel that the Mashpee Conservation Commission already owns. The area is a bird-watchers and hikers paradise of beautiful salt marsh, a vernal pool, abandoned cranberry bogs and upland with existing wood-roads and bog-roads traversing the site. Birds that may be seen at various times of the year include green backed heron, black duck, bufflehead duck, osprey, and snowy egret.

At the north end of Seconsett Island, the Nature Conservancy received a three acre island as a gift in December 1995 from Ruth Witkus. The Nature Conservancy

The Partners of the Mashpee National Wildlife Refuge

- U.S. Fish and Wildlife Service
- Massachusetts Executive Office of Environmental Affairs
- Massachusetts Department of Environmental Management/Waquoit Bay National Estuarine Research Reserve (WBNERR)
 - Massachusetts Division of Fisheries and Wildlife
- Town of Mashpee/Mashpee Conservation Commission
- Town of Falmouth/Falmouth Conservation Commission
 - Falmouth Rod and Gun Club
 - Orenda Wildlife Trust
- Mashpee Wampanoag Indian Tribal Council

Continued on Page 2

Gain and Loss, continued

recently donated the land to the United States Fish and Wildlife Service. The island is oak and pine upland surrounded by marsh, and is only accessible by foot at low tide or by boat.

In December 1996, the heirs of Elise Otis, represented by John Otis Drew, donated two lots totaling 11.2 acres to the Mashpee Conservation Commission.

Located in the pine barrens, the lots tie together Town conservation land on Great Neck Road South with conservation land on Route 28. As well as making a future trail from the Mashpee River Woodlands to the Quashnet River possible, the lots help fill in missing pieces needed for complete protection of the pine barrens.

In the effort to protect land within the Refuge, there have also been compromises between preservation and development. As noted in the summer 1996 Newsletter, the Department of Environmental Management (DEM) purchased approximately 50 acres of land adjacent to South Cape Beach State Park at the northern end of Great Flat Pond. However, the state was unable to purchase the entire parcel, leaving approximately 20 acres near Great Flat Pond available for development into single-family homes in the future.

After debating the complex issues surrounding the decision about where to locate the new Mashpee High School, the Town voted to build on 140 acres within the Refuge boundary near the Quashnet River and Route 151. The school was sited on 86 acres, and it was agreed that 54 acres along the Quashnet River would be placed under a conservation restriction.

While there have been gains in land acquisition within the Refuge, and compromises as well, there have also been losses to development. The fact is that construction in Mashpee continues at a rapid pace. Three individual lots totaling approximately 4.5 acres from pre-approved subdivisions have been developed into single-family homes.

Unfortunately, the Number 3 priority for acquisition within the Refuge was recently lost. The approximately 17 acre parcel is located on the east side of the Quashnet River north of Route 151. It was a key connector in the narrow neck that joins the northern and southern portions of the Refuge. Although a connection still exists, it is now much narrower.

Especially sad, the last large coastal property in Mashpee has been subdivided for 12 single-family homes. The 16.13 acre parcel is located on Ockway Bay, and, if protected, could have been a significant location for public coastal access.

The unique nature of the **Mashpee National Wildlife Refuge** makes such losses inevitable. However, the good news is that, because residents and the Refuge Partners have worked together, the total amount of land that has been protected since 1995 (approximately 687.5 acres) outweighs the amount of land that has been lost (approximately 143.6 acres).

I invite you to join with us in working to make land preservation in the coming years even more successful!

Tana Watt, Associate Coordinator

1997 DEM Grant Awarded

- Refuge Brochure
- Speakers Bureau

We are pleased to announce that the Department of Environmental Management (DEM) selected the *Friends of the Mashpee National Wildlife Refuge* to receive a 1997 Coastal Access Small Grant award of \$3,000. In keeping with the public/private partnership that resulted in the creation of the Refuge itself, we are seeking to match the grant award with an equal amount in donations from local businesses.

The funds will be used to produce a high quality brochure and slideshow that will explore the various types of habitat found within the **Mashpee National Wildlife Refuge** and appropriate opportunities for public use, including recreational shellfishing, beach-going, hiking, birding, boating, and wetland marine life study.

Our goal is to produce enough copies of the brochure to be able to give a copy to each interested household and business in Mashpee and Falmouth as well as make it readily available to visitors.

We are also developing a "Speakers Bureau" of *Friends* members who will be available to speak about the Refuge. As part of this program, the brochure, slideshow and a speaker will be available to schools, resident groups, and community and business organizations.

If you or a group you know of would like to make a donation or invite the *Friends* to speak to you, please contact us at (508) 495-1702.

1997 Coastal Access Grants Program

Project Name: ACQUISITION OF HANDICAPPED ACCESS BEACH CHAIRS

Location: Falmouth

Grant: \$3,000

Organization: Town of Falmouth, Beach Committee

Contact Person: Heather Harper

Address: 59 Town Hall Square
Falmouth, MA 02540

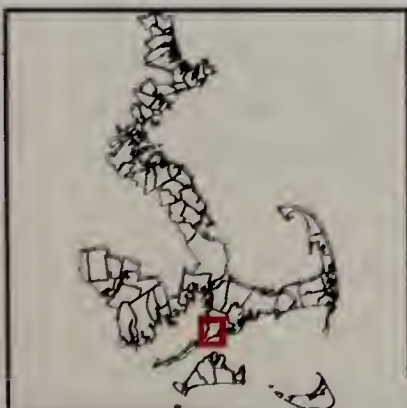
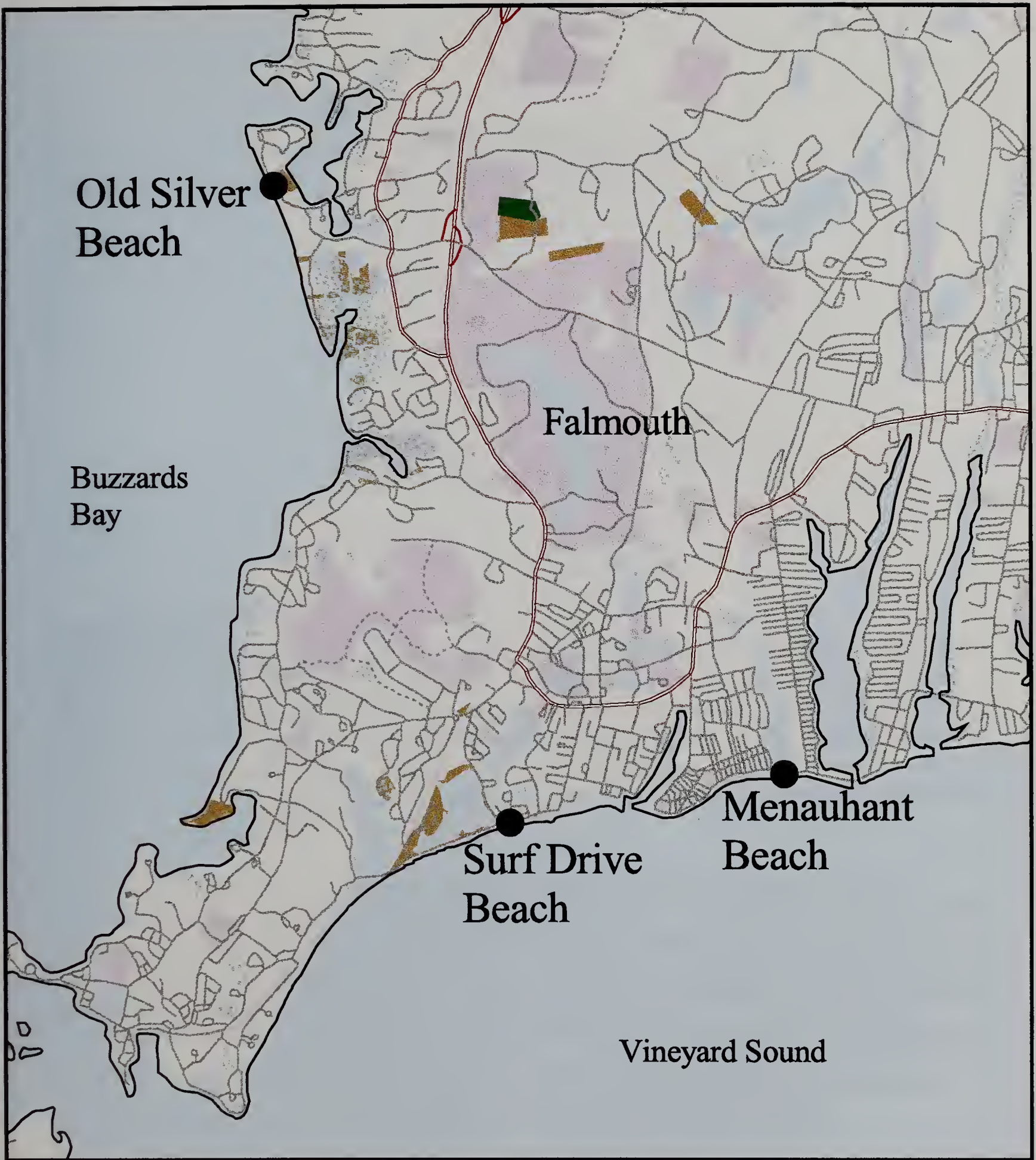
Telephone: (508) 548-7611

Summary:

The Town of Falmouth acquired handicapped accessible beach chairs for the three most popular of its ten town beaches. An estimated 3,000 town residents have physical limitations, and the town estimates that 10-15% of visitors are handicapped. While the town provides handicapped parking and ramps to four of the beaches, people with physical disabilities previously could not access the water without assistance from family, friends, or beach staff. The Surf Chairs provide considerably more independence to individuals with disabilities, as well as allowing staff more time for their core duties. The grant supported the purchase of three Surf Chairs, and leveraged donations to purchase two more.



Photograph by Brenda Sharp



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
 - Wetlands
- Roads
 - Unpaved
 - - - Secondary
 - == Interchange
 - == State Route
 - == US & Interstate

Town of Falmouth

"Surf Chair Access Project"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



TOWN OF FALMOUTH

59 TOWN HALL SQUARE

FALMOUTH, MA 02540

508-548-7611

FAX: 508-457-2511

**Final Report
Department of Environmental Affairs
Coastal Access Small Grant Program
September 30, 1997**

Project Description

The Town of Falmouth is blessed with tremendous natural resources including almost seventy miles of tidal shoreline and provides access to 300,000 to 400,000 visitors each year on our lifeguard protected beaches. In addition, we offer public access to many other coastal areas to hundreds of thousands of visitors to our community. However, the summer of 1997 Falmouth's beaches opened to a new group of users. The Town of Falmouth's Beach Committee was fortunate to receive a grant of \$3,000 from the Coastal Access program for the acquisition of three handicapped accessible 'Surf Chairs'.

Three "Surf Chairs" were purchased from Surf Chair, Inc. of Daytona Beach Florida for \$1,000.00 per chair delivered including an umbrella, foot rest. The chairs were easily assembled by Town employees and transported to Surf Drive Beach in Falmouth Center, Old Silver Beach in North Falmouth, and Menauhant Beach in East Falmouth (map attached). The Beach Committee immediately reported that the chairs were of great interest to the disabled population of Falmouth. The Town of Falmouth's Commission on Disabilities played an active role in selecting the type of handicapped accessible beach chair purchased and advertised the availability of the chairs through their news letter. The Commission estimates that there are 3,000 Falmouth residents with physical limitations and that 10 - 15% of our visitors have physical limitations.

The Beach Committee found an immediate client base for the 'Surf Chairs'. In fact interest in the chairs was so great that a reservation policy had to be established. A reservation book was kept at the Beach Committee Administrative offices at Surf Drive Beach. Regular users of the chairs call to reserve the times of day they anticipated using the chairs. As news of the chairs spread by word of mouth, supportive reports and photographs in the Falmouth Enterprise and Boston Herald, and observation of the chairs in use, interest steadily increased throughout the summer (articles attached). Typically, the surf chair was used by one or two beach patrons each day. An

effort was also made to transport beach chairs to beaches without permanent storage locations when requested. Users included regular visits from individuals from as far as Brockton who came expressly to use the 'Surf Chair'.

The only problem associated with the 'Surf Chairs' was the lead time required on ordering. Surf Chair, Inc. is a small part time business for its owners. The response to inquiries and purchase orders was slow and best results occurred when we contacted the company in the evening. It took several months to acquire the chairs. Fortunately we had plenty of lead time and had chairs at the beaches for the first day of summer.

Anticipated Next Steps

The goal of the Falmouth Beach Committee is to have at least one surf chair at each of Falmouth's ten (10) town maintained beaches. Grant funding from the Coastal Access Program purchased three beach chairs. This grant funding was used to leverage donations from the Falmouth Rotary Club, an individual contributor and the Commission on Disabilities. Their donations secure the purchase of two additional handicapped access beach chairs. The manufacturer has been asked by the Falmouth Beach Committee and Commission on Disabilities to design a smaller, child size version of the chair and if developed will be one of the two chairs to be purchased next spring. In addition, the Cape Organization for the Rights of the Disabled CORD, has expressed a concern about the wheels of the model selected for the Town of Falmouth and future chairs may vary from the 'Surf Chair' currently in use. Nonetheless, handicapped accessible beach chairs have become a permanent feature for Falmouth's Beaches.

The Falmouth Beach Committee has made tremendous improvements in Coastal Access for our community. The groundwork laid by this grant funded project will help support a fund raising effort to purchase chairs and storage facilities for the remaining town maintained public beaches.

Timetable

Project is complete in terms of Coastal Access Program requirements. Please find articles and photographs, a map, product information, and a report from the Town Accountant attached.

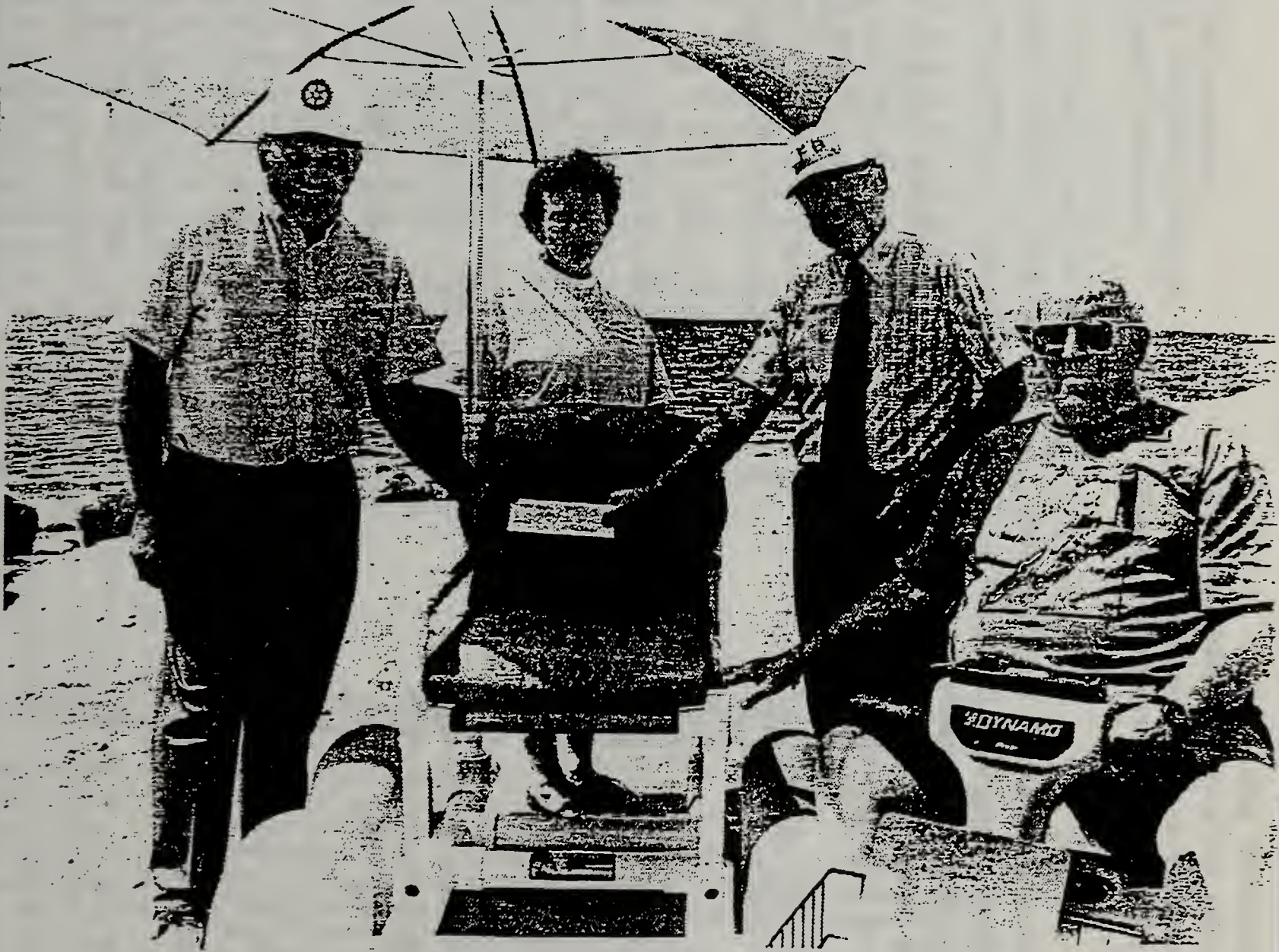
Prepared By:

Heather B. Harper, Assistant to the Administrator

Kathleen Burke, Superintendent of Beaches

Frank Inzirillo, Town Accountant

Friday, August 8, 1997



Rotary Club President Donald L. Hoffer, Beach Superintendent Kathleen A. Burke, Town Administrator Peter F. Boyer and John J. Balfe III, chairman on the Commission on Disabilities, gather together at Menauhant Beach to present the third handicapped beach chair to the town. Three were purchased with a \$3,000 grant from the state and are now at Surf Drive, Menauhant and Old Silver Beach. The Rotary Club donated \$1,000 to buy one of the chairs. A fourth chair will be purchased and will go to Chapoquoit Beach.

(Photograph by Brenda Sharp)

New Opportunity For The Handicapped

Pauline Anderson cried after the first time she used the town's handicapped access chair at Surf Drive. It was her first visit to the beach in 10 years. Now Ms. Anderson, who has multiple sclerosis, swims at Menauhant Beach three times a week. A 14-year-old comes from North Attleboro once or twice a week so he can use the wheelchair with large plastic wheels that can travel over the sand at Old Silver Beach.

There are others who couldn't get to Falmouth beaches before the beach committee, with the help of town hall and the town Commission on Disability, obtained a \$3,000 grant last winter from the state Department of Environmental Management for three handicapped access chairs. One is stationed at Surf Drive, the others at

Menauhant and Old Silver Beach, the town's most heavily used beaches. The Falmouth Rotary Club has donated \$1,000 for a fourth chair, which will go to Chapoquot Beach. The chairs, reports a staff member at the Surf Drive bathhouse, are used just about every day. Residents and visitors are asked to call the bathhouse ahead, at 548-8623, so the staff can make sure the chair is available and a lifeguard ready to help the user get down to the water.

The beach staff hopes to obtain more chairs, perhaps even a small one that young children can use. Unless the town comes up with another grant, however, more donations will be needed to buy the \$1,000 chairs. They're expensive, but worth the price. Just ask Ms. Anderson.

State honors coastal access efforts

By SEAN GONSALVES
STAFF WRITER

SANDWICH — Sand and salutations marked the first celebration of the Coastal Access Small Grant program.

This year's grant recipients were given certificates of recognition and a small bag of sand to commemorate their efforts in making the Cape's coastline more accessible.

Yesterday morning about 30 people gathered at the Thornton Burgess Society's Green Briar Nature Center as the Department of Environmental Management (DEM) honored the recipients.

"The grants program is based on the principle that the Massachusetts coastline should be as open, accessible, and approachable as possible for all citizens and visitors," said state Environmental Affairs Secretary Trudy Coxe. "The grants are helping to build a coherent grassroots network that is actively engaged in working towards this goal."

One of the groups honored yesterday was the Falmouth Beach Committee, which received a grant to have a special wheel chair built to make the town's beaches more accessible to the disabled.

The chair is equipped with a beach umbrella and four yellow

wheels that can easily roll over beach sand.

The Town of Barnstable also was honored for its Sandy Neck Interpretive Initiative. The town constructed information stations along the beach, allowing visitors an opportunity to learn more about the area.

There is a \$3,000 limit on the grants, but a little money can go a long way with committed individuals, said DEM commissioner Peter Weber.

The money was allocated two years ago by state legislators as part of the Open Space Project.

THE NEED FOR ACCESSIBILITY

Can Surf Chair help with compliance with the Disabilities Act and other federal access laws?

Yes. Surf chair allows physically challenged people to access areas and terrain that were extremely difficult or impossible to negotiate in the past in a conventional wheelchair, i.e. beaches, trails, etc..

Is it expensive to expand access for the physically challenged to recreational areas?

Yes, it can be. Ramps, paved trails and dune walk overs are expensive to design, permit, and build. Then there's the continuing cost of maintenance due to elements and other considerations. Not to mention the fact that they detract from the natural area they are built in. However, a Surf Chair, for a relatively small capital outlay, can supply outdoor access to a variety of applications with little or no damage or defacement to the terrain.

WHAT PEOPLE ARE SAYING ABOUT SURF CHAIR

"It's really good for other kids to see kids in a chair like this...it looks fun and it is fun. I think anything that looks like a regular wheelchair is scary to people. The Surf Chair looks cool to other people. It doesn't look like a scary orthopaedic device."

Eliza Mindell
Program Coordinator
Northern Suburban
Special Recreation Association

"These lightweight plastic wheelchairs are in the vernacular of the beach, "totally cool,"-they are the wave of the future."

Reader Editorial
Chicago Sun Times

(Surf Chair inventor Mike) "Hensler has really come up with a tremendous device that's really helped to enhance the level of function for beach loving people."

Dr. Mark Young
Physiatrist & Specialist in Physical
Medicine and Rehabilitation at
Johns Hopkins University Hospital
Baltimore, Maryland

ABOUT SURF CHAIR, INC.

Surf Chair was invented in 1991 to meet the needs of the people who visit Central Florida's beaches.

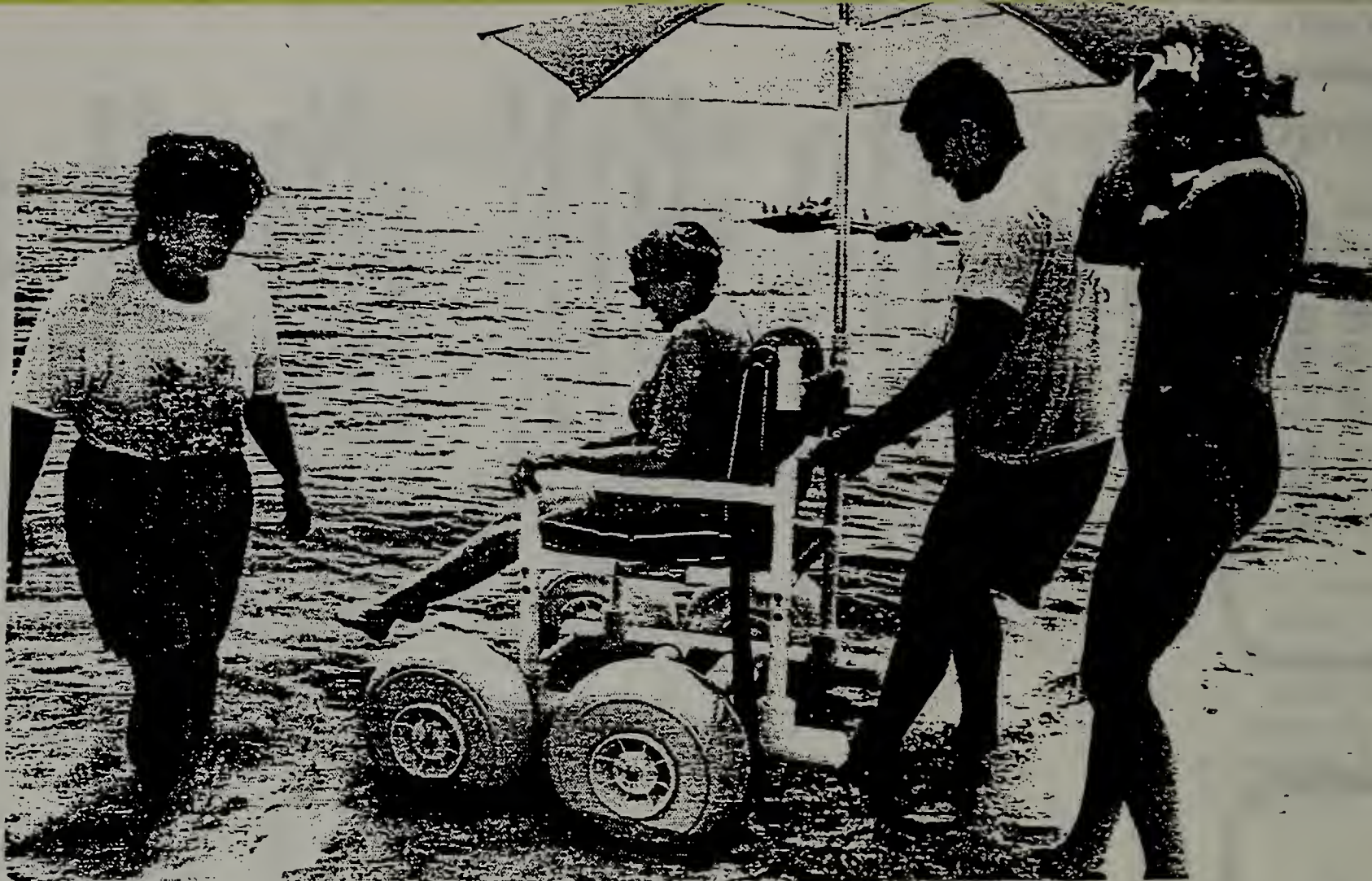
It had been observed that other wheelchairs on the market were unsatisfactory for travelling through the uneven soft sand, salt water, or other rough terrain at the beach.

With the advent of Surf Chair, the problem of beach access, and other areas of rough terrain, is solved. Its novel, non-clinical appearance is uplifting and friendly. It has proved to be a cheerful sight with its happy appearance.

We at Surf Chair believe that recreational areas should be enjoyed by everyone. Through the invention of Surf Chair, we hope this belief will become a reality.

If you have questions after looking at this brochure, please telephone or fax Surf Chair, Inc..

Telephone: (904) 253-0986
Toll Free Telephone: 1-800-841-6610
Fax: (904) 253-7600



Pauline Anderson, Marlin Drive, East Falmouth, took her first swim in the ocean in 10 years yesterday when she broke in the town's new handicapped beach chair at Surf Drive Beach, with the assistance of lifeguards Randy Collete and Sarah Jubinville and a home health aide, Marcia Duffany. Kathleen Burke, superintendent of beaches, said there have already been about five more reservations for use of the chair, which arrived two weeks ago. Three more handicapped beach chairs are expected to be delivered in the next few weeks.

(Photograph by Brenda Sharp)

How a good vacation can go sour

Marge, Bill and the kids were eagerly anticipating their upcoming Cape Cod vacation. Vacations were rare for them. Not only was money tight but making travel plans with Marge's disability made vacations more work than the respite they provided. This of course made her self-esteem very vulnerable, but they had heard about Cape Cod and its "Surf Chairs" and were eager to go to the beach.

They were staying at a relative's cottage in South Harwich. They would be there for two weeks. Upon arrival, their first "to do" was to go to the grocery store and get the necessities. They were directed to the shopping center in East Harwich where there was a supermarket, pharmacy, gas station, post office, etc.

First on the list was the supermarket. Their van (equipped with

Marge's lift for her wheelchair) maneuvered to the front of the parking lot where the parking spots for those with disabilities were.

One was empty (hooray) but unfortunately, the cross-hatched space (space with yellow lines painted on it) next to it, reserved for those with lifts, wheelchairs and walkers, was occupied by a car.

Some unthinking or uncaring person had parked their vehicle in an area where no vehicles should be parked. It is not a parking spot and anyone who abuses it should be reprimanded severely.

Marge's heart sank as one of the kids said to Bill, "Guess, you'll have to park in a regular spot. Mom'll have to stay in the van."

Their Cape Cod vacation was beginning to sour.

JEAN ANN McLAUGHLIN
Harwich

1997 Coastal Access Grants Program

Project Name: LAGOON POND SEA PATH IMPLEMENTATION PROJECT

Location: Oak Bluffs

Grant: \$3,000

Organization: Martha's Vineyard Commission

Contact Person: Thomas Simmons

Address: P.O. Box 1447
Oak Bluffs, MA 02557

Telephone: (508) 693-3453

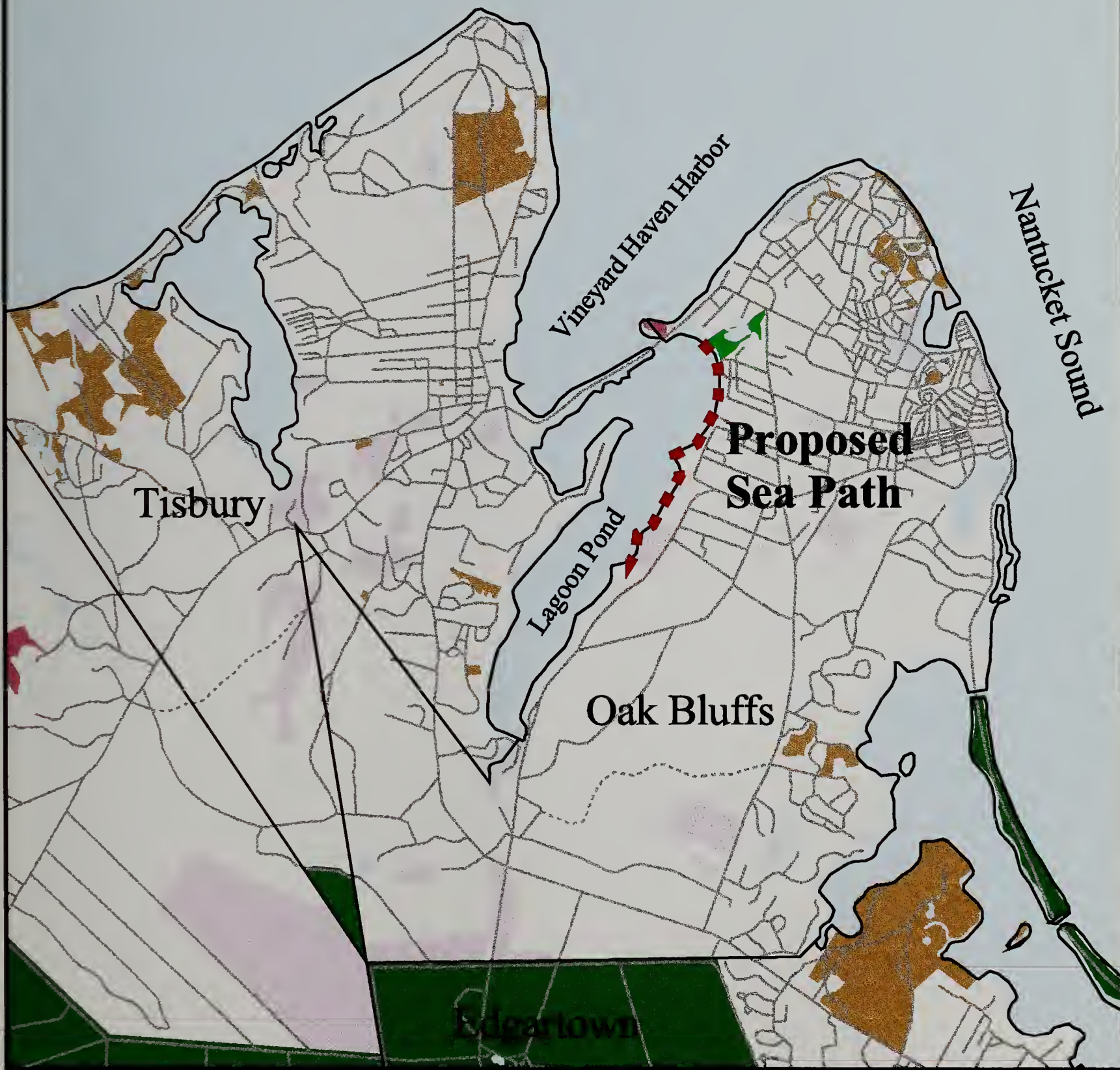
Summary:

The Martha's Vineyard Commission (MVC) followed up its earlier research (funded by a 1996 Coastal Access Grant) on a potential Lagoon Pond shoreline trail between Sailing Camp Park and the state-owned lobster hatchery. The MVC coordinated a public input session, worked with the Oak Bluffs Conservation Commission, the Division of Marine Fisheries, abutters, and other interested parties regarding the potential trail, and established a database. Preliminary research has suggested that much of the intertidal zone in this area has been conveyed to the Town. MVC staff will be working one-on-one with abutters in an effort to address concerns. The Coastal Access Grant supported MVC staff time and travel.



Photograph by Jo-Ann Taylor

Vineyard Sound



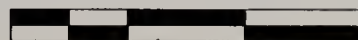
- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Martha's Vineyard Commission

"Lagoon Pond Sea Path Implemenation"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet



LAGOON POND SEA PATH PHASE II TASK REPORT

PROJECT DESCRIPTION

Noted for its clean, clear water, Lagoon Pond is more than 30 feet deep in some places. The 583 acre pond is a long and narrow embayment located between the towns of Oak Bluffs and Tisbury, separated from the open waters of Vineyard Haven Harbor by a baymouth barrier with a drawbridge. Surrounding land use is primarily residential and conservation. Water uses include boating, swimming, recreational and commercial shellfishing, the two hatcheries and a herring run. The study area runs the length of the shore between two large public properties; Sailing Camp Park, owned by the Town of Oak Bluffs, and the State Lobster Hatchery, owned by Massachusetts Division of Marine Fisheries. In the first phase of the Sea Path program, extensive research was done to identify recorded property boundaries. The report for the first phase includes a matrix of deed information, which identifies for each property the recorded boundary designation and source, and historical designations. It is clear from the research that the public holds certain rights in the study area, some of which have been claimed for private use. The degree to which the private claims are valid varies between and within the old subdivisions. The second phase of the project involves implementation of some actions which were suggested by the data compiled in the first phase.

PHASE II TASKS

The Martha's Vineyard Commission has performed a number of tasks in the second phase of the Lagoon Pond Sea Path project, in order to utilize the information gathered in the first phase:

Coordinate first public input session

MVC staff coordinated the first public input session for the program. Staff set up the time and place at the convenience of the Oak Bluffs Conservation Commission, secured space at Sailing Camp Park, notified abutters and other interested parties. MVC Executive Director and staff participated in the session on September 10 and responded in the office and on the telephone to many subsequent inquiries and comments.

Coordination with Oak Bluffs Conservation Commission

MVC staff coordinated meetings with the OBCC regarding the program. In addition to the public input session on September 10, MVC staff will attend the OBCC meeting on October 8 and will further discuss the Phase I report and options for future action.

Communication with abutters and other interested parties

MVC staff corresponded with a number of interested parties who surfaced in response to press coverage about the program; many hours were spent with individuals in the office, on the phone and in letters. MVC mailed copies of the Phase I report and notices of the first public input session to several dozen abutters and others. MVC staff continue to respond to inquiries.

Contact DMF regarding access at Lobster Hatchery

The Martha's Vineyard Commission initiated dialogue with Massachusetts Division of Marine Fisheries personnel regarding the desirability of establishment of physically unhindered public access point at the Lobster Hatchery, northern terminus of the planning area.

Visit by Secretary Coxe and Commissioner Webber

MVC staff assisted with preparations and participated in the August visit by EOEa Secretary Trudy Coxe and DEM Commissioner Webber. The visitors met with Lobster Hatchery personnel and were greeted by a large gathering of abutters. MVC staff assisted with responses to the inquiries from the crowd.

Set up database

MVC staff created a database which presently includes names, addresses and parcel descriptions for abutters. The database has been used to print mailing labels. There is potential to add to this database; possibly to include boundary descriptions, deed references and other data.

Participated in Awards Ceremony

MVC staff traveled to Sandwich in July to participate in DEM's awards ceremony for the Sea Path program for our region. Staff prepared and showed a visual display and made a brief oral presentation.

ANTICIPATED NEXT STEPS

MVC staff will continue to work with the Oak Bluffs Conservation Commission to determine direction for future project planning.

MVC staff will next meet with the OBCC on October 8. MVC staff has constructed a database which can be further built with data from the first phase.

1997 Coastal Access Grants Program

Project Name: COASTAL ACCESS AND SHOREBIRD PROTECTION PROJECT

Location: Marion

Grant: \$3,000

Organization: Sippican Lands Trust

Contact Person: Theresa D. Cederholm

Address: 589 Mill Street
Marion, MA 02738

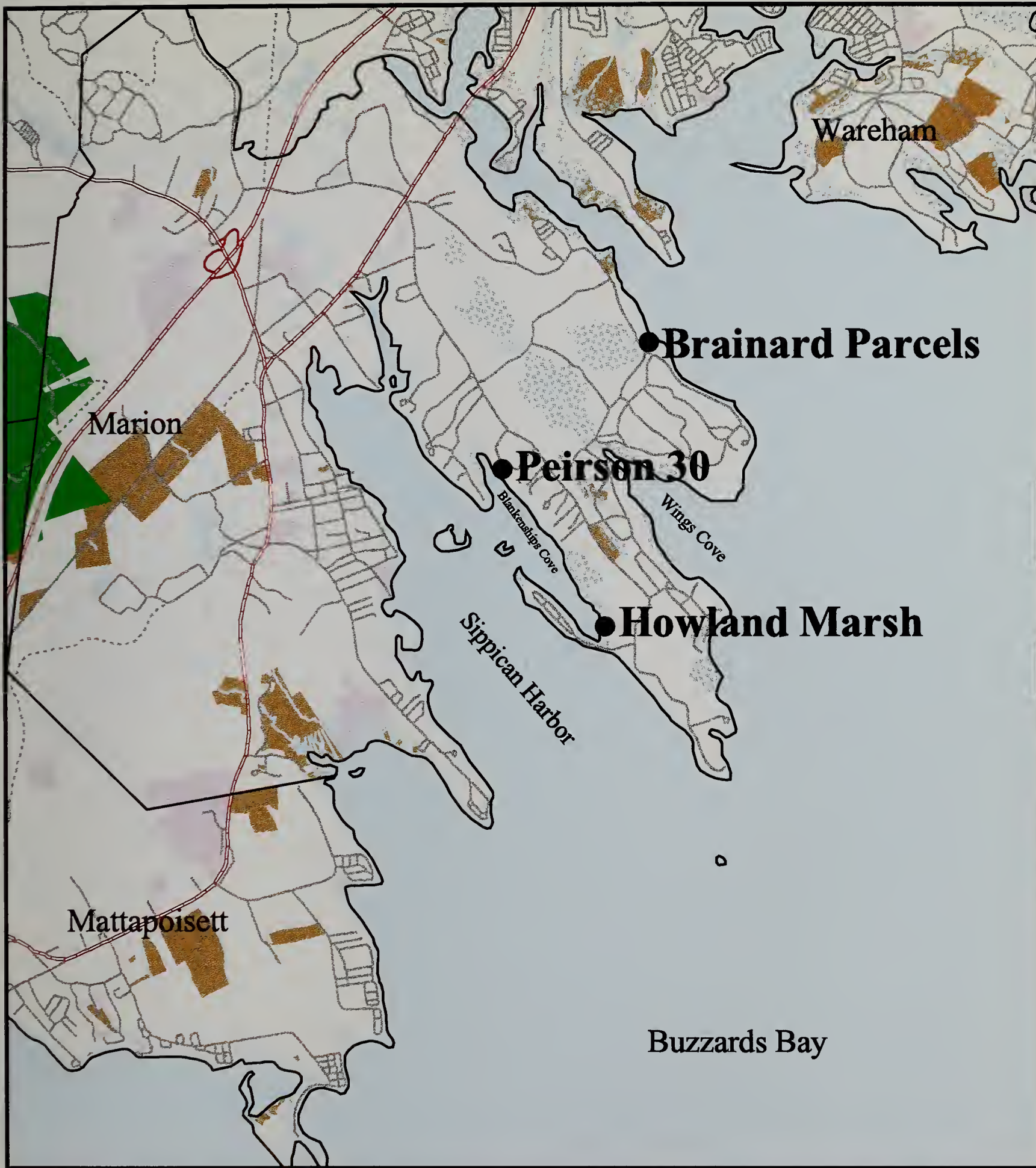
Telephone: (508) 748-2809

Summary:

The Sippican Lands Trust (SLT) provided public access to three of its coastal preserves by establishing walking trails, installing bicycle racks, and placing trailhead, directional, and interpretive signs. Previously, no formal trails existed through the dense brambles and fallen trees of the Howland Marsh and Brainard Marsh preserves, and a trail extended only about 1/3 of the way to the shoreline at the Peirson Preserve. Beautiful views are now available, and a trail allows visitors to view a nearby osprey nest but keeps people at a sufficient distance to avoid disturbance. In addition to the physical trail improvements, the SLT hired a wood sculptor to create a series of handsome trailhead and directional signs. The grant supported staff time, materials for signage, entrance posts, bicycle racks, and the services and equipment of a 4-man arborist crew.



Photograph by Theresa Cederholm



- Project Site
- Openspace by Ownership
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Wetlands
- Roads
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate

Sippican Lands Trust

"Coastal Access & Shorebird Protection"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet

Final Report

The Sippican Lands Trust Coastal Access and Shore Bird Protection Project A 1997 Coastal Access Program Project

Project Description:

Since its founding ten years ago the Sippican Lands Trust (SLT) has progressively moved to a proactive role in the protection of open space in the community, while at the same time has worked to develop its junior and adult steward programs and enhance access to the properties where appropriate. With the greatly appreciated support of the **Coastal Access Program** the SLT has been able to provide the public with new access to three significant coastal properties: **Peirson Preserve** at the head of Blankenship Cove and **Howland Marsh** on Planting Cove (both in Sippican Harbor) and **Brainard Marsh and Beach** along the Weweantic River between the towns of Marion and Wareham. Two of these properties, Howland and Brainard did not have formal trails--of great concern since both provide habitat for a variety of small mammals and shore birds including great blue heron and osprey. The thirty acre Peirson Preserve had a small, informal path which extended only one third of the way to the shore (originally thought to be two thirds of way, but re-design lengthened trail considerably) necessitating bushwhacking and free-form foot travel. A fourth refuge **Aucoot Cove**, was ultimately not included in this project as planned since people seemed to feel the path to the beach is adequate, and the adjacent community felt unprepared to accommodate additional parking which new signage might bring about. Since the SLT does not own all of the coastal frontage along Aucoot Cove we did not generate additional signage, but the property continues to enjoy public use due to its inclusion in *Guide to Selected Wildlife Refuges in Marion, Massachusetts* created by the Sippican Lands Trust's Jr. Steward/Intern Program with Coastal Access Program support 1996-97. Because of limited parking at all of the sites, and because these properties are situated along Marion's proposed bike path, bike racks have been installed at trailheads with the support of this year's grant.

Trail clearing The largest, most strenuous and costly portion of this project was the clearing of dense brambles, brush poison ivy and large fallen trees, compounded by uneven and occasionally wet terrain. Once we were able to penetrate the growth, unforeseen opportunities for scenic diversions presented themselves, almost doubling the length of the Peirson Preserve Trail which was created as a large loop, rather than out and back; and adding lovely diversion to a small pond and a flowering wetland at Brainard Marsh. This required three full days of an arborists crew of four men: far more than we had anticipated. We are very fortunate that the arborist has made a sizeable charitable donation by charging less than retail rate. Howland Marsh Trail was cleared by volunteers who came from as far away as Fall River and Westport.

Signage: As originally planned, the Upper Cape Cod Regional Vocational Technical School was to create signs for this project--a happy collaboration for both the SLT and the School. An unforeseen contract between the School and the Department of Public Works to create bulletin boards for all of its facilities bumped this project into a time frame outside of the Coastal Access

Program grant period. We were fortunate to find Millpond Woodworks and Gerald Vinci, a fine wood sculptor and craftsman who was intrigued by the project and committed to the SLT's cause. Mr. Vinci created a series of handsome, weather resistant signs, creating a prototype for all future SLT signs. Mr. Vinci also gave the Lands Trust a sizable discount.

Bicycle Racks & Pallet Bridges: Two substantial and heavy bike racks were purchased and installed for Peirson Preserve and Brainard Marsh, and a lighter weight, portable bike rack was purchased for shuttling between Howland Marsh and other SLT properties for special biking events at SLT preserves. Three recycled industrial pallets have been donated for use as bridges by Ocean Spray, but to date, have not been delivered.

Anticipated Next Steps:

This project has not only provided the impetus for the SLT's signage and "look" but has revealed many new possibilities for the properties themselves. Opening access to the interior of the refuges revealed a hidden pond and flowering wetland on Brainard Marsh, exquisite views down Buzzards Bay toward Cuttyhunk from Howland Marsh, and possible breeding grounds for Diamondback Terrapins at Peirson Preserve. The latter situation has delayed the placement of the spur path to the marsh at the top of the trail loop until next spring when we can get advice from marine scientists. The present trail goes within a few yards of the marsh, to which vistas will be cut. In the spring of 1998 the Marine Biology class at Tabor Academy under the supervision of Richard Harlow will work with other scientists to study the terrapins.

On Friday, October 24, the Lands Trust is sponsoring a biking event to celebrate the opening of these new trails. Bikers will meet at Planting Island Causeway, then bike to Howland Marsh, Brainard Marsh and Peirson Preserve before returning to Planting Island for refreshments.

The Upper Cape Cod Regional Vocational Technical School has agreed to build osprey nest platforms for Brainard and Howland Marshes. We have been offered a donated pole, and we are currently investigating placement in topped off trees as has been successfully done in the mid-Atlantic states. We plan to install (perhaps with the school's help) a simple plank bench at Brainard Marsh facing the mouth of the Weweantic River where a rocky outcrop hosts a lively colony of harbor seals.

While a modest amount of funding for the newly designed trailhead signage will be budgeted each year, we need to continue seeking outside funds to identify and enhance visibility of SLT preserves as well as for other means of public outreach. This project has rendered three of our properties now usable for educational programming developed by the Lands Trust and by other agencies such as the Boy Scouts, Tabor Academy, the Sippican Elementary School, Old Rochester Regional High School and the Marion Museum of Natural History.

The Lands Trust recently collaborated with the Sippican Historical Society in writing a

successful grant to the Massachusetts Historical Commission for an architectural and archaeological survey of the Town of Marion. Of particular interest to the Commission are the archaeological resources of East Marion where the SLT's Brainard and Howland Marshes, Peirson Preserve, several parcels in the Piney Point area, and Hagemann Woods (a large tract currently under agreement for purchase) comprise the lion's share of remaining open space available for archaeological reconnaissance. Preservation of these lands is critical not only to the preservation of our natural heratige, but to the understanding of our cultural heritage.

Timetable:

Due to extensive winter storm damage and a wet spring, trail work was considerably delayed. Scheduling of volunteers was contingent upon arrival of arborist and crews at two of the three properties to clear major obstacles, so the timetable was dramatically compressed. The unexpected withdrawal of the Upper Cape Voc-Tech School necessitated a late spring scramble to find alternative affordable signage. However, most of major work has been satisfactorily completed, except for donor delivery of recycled industrial bridge pallets and some additional non-safety related treework..

Visual Documentation:

- a.) Media announcement of grant in *The Sentinel* December 26, 1996
(Release sent to 4 media outlets)
- b.) Sippican Lands Trust Holdings
- c.) Map of Peirson Preserve Trail
- d.) Map of Howland Marsh Trail
- e.) Map of Brainard Marsh Trail
- f.) Pre-trail conditions
- g.) Howland Marsh volunteers: John Cederholm, Marion, Paul and Ernie deVillers,
Westport, Sue Shea, Fall River
- h.) Trailhead signage
- i.) Gerald Vinci putting finishing touches on a sign
- j.) Recent article on Gerald Vinci
- k.) Winter 1997 *Lands Trust Newsletter* announcement of grant receipt
- l.) Summer 1997 *Lands Trust Newsletter* DEM Recognition Ceremony (p.3)
- m.) Media publication of recognition ceremony photograph, *The Sentinel*, September 25, 1997.

Samples of End Products:

See photographs

Lands trust grant will increase public access to open spaces

The Sippican Lands Trust has received a grant from the state's Coastal Access Small Grant Program.

Thirty-three proposals were received for the grants by the Executive Office of Environmental Affairs (EOEA) and 25 were chosen to receive funds through a competitive grant process. The SLT will receive \$3,000 for a project in the Town of Marion.

The SLT will provide public access to four of its coastal preserves, including the creation or completion of walking trails, the creation of bicycle racks at trail heads and other improvements to the preserves.

All of the properties are located on a proposed community bike-way.

"I am glad that we were able to

secure this grant for the Town of Marion through the Sippican Lands Trust," said Sen. Marc Pacheco, D-Taunton. "This project is very worthwhile and once completed should provide the citizens of the town endless enjoyment of their coastal surroundings."

This grant will enable SLT to improve its coastal preserves, encouraging public access and, at the same time, enable the trust to protect habitat areas from pedestrians.

The grant is all-encompassing, including funds for staff, materials, the construction costs and the services of an arborist to assist in the project.

"I am excited that the state was able to recognize the importance of the Sippican Lands Trust," Rep. William Straus, D-Mattapoisett, said. "This grant is a positive step for the proposed bike path, and more importantly, a great reward to the Town of Marion for its commitment to protect its coastal preserves."

This is the third year the EOEA and the Department of Environmental Management have made these funds available to coastal communities.

The project in general is aimed at supporting coastal access initiatives and at funding various projects that emphasize education and coastal trail work.

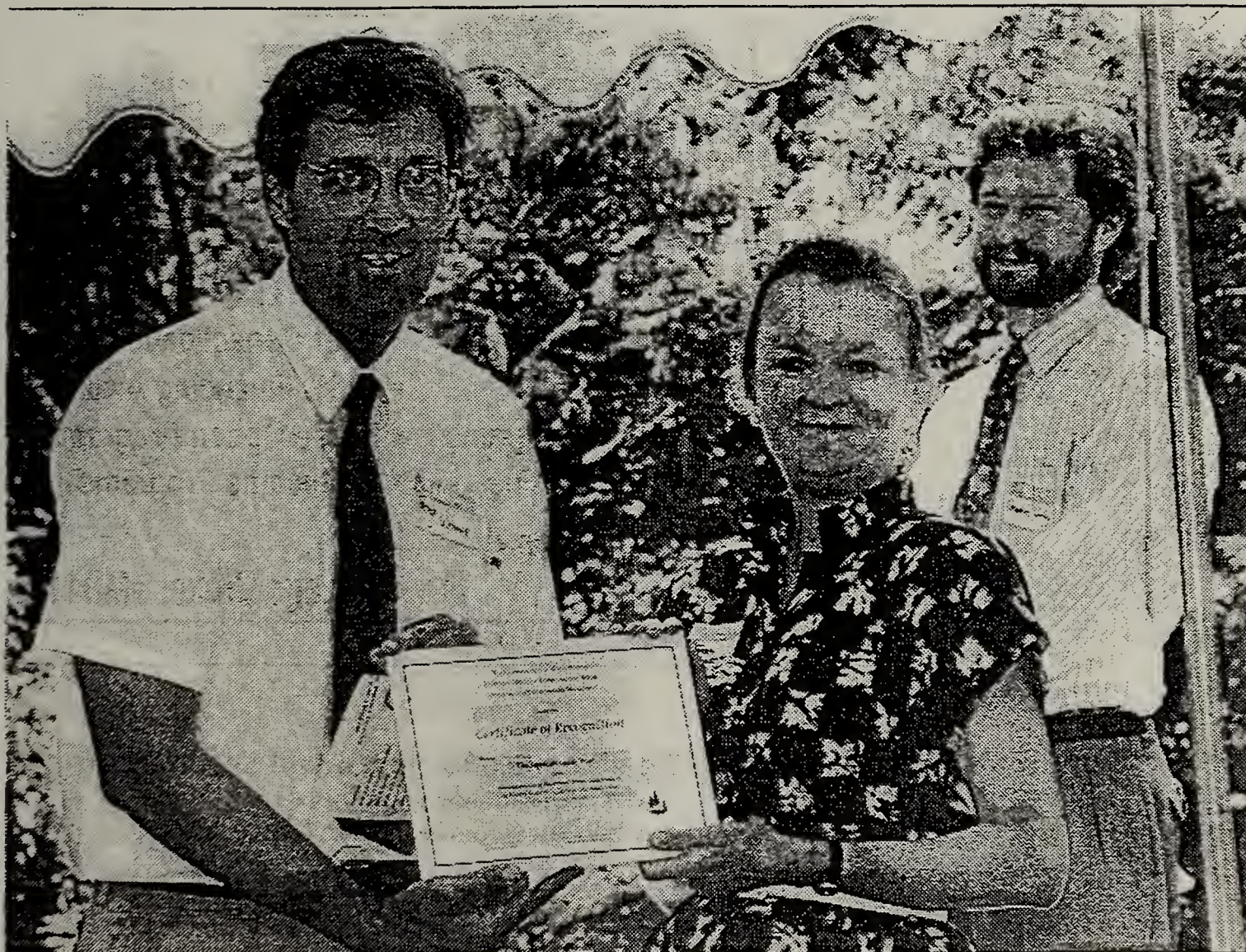


The SENTINEL

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44 Pages •



Staff photo/

Congratulations — Peter C. Webber, state commissioner of environmental management, and Geordie Vining, DEM coastal access planner, present Sippican Lands Trust Executive Director Tess Cedarholm with a certificate of recognition for the lands trust's recent grant-funded project to clear trails on several coastal wildlife refuges and to put up signs and bicycle racks.

1997 Coastal Access Grants Program

Project Name: RIVERSIDE HERITAGE MARINE PARK

Location: New Bedford

Grant: \$3,000

Organization: Hands Across the River Coalition

Contact Person: Jim Simmons

Address: 222 Union Street, Room 202
New Bedford, MA 02740

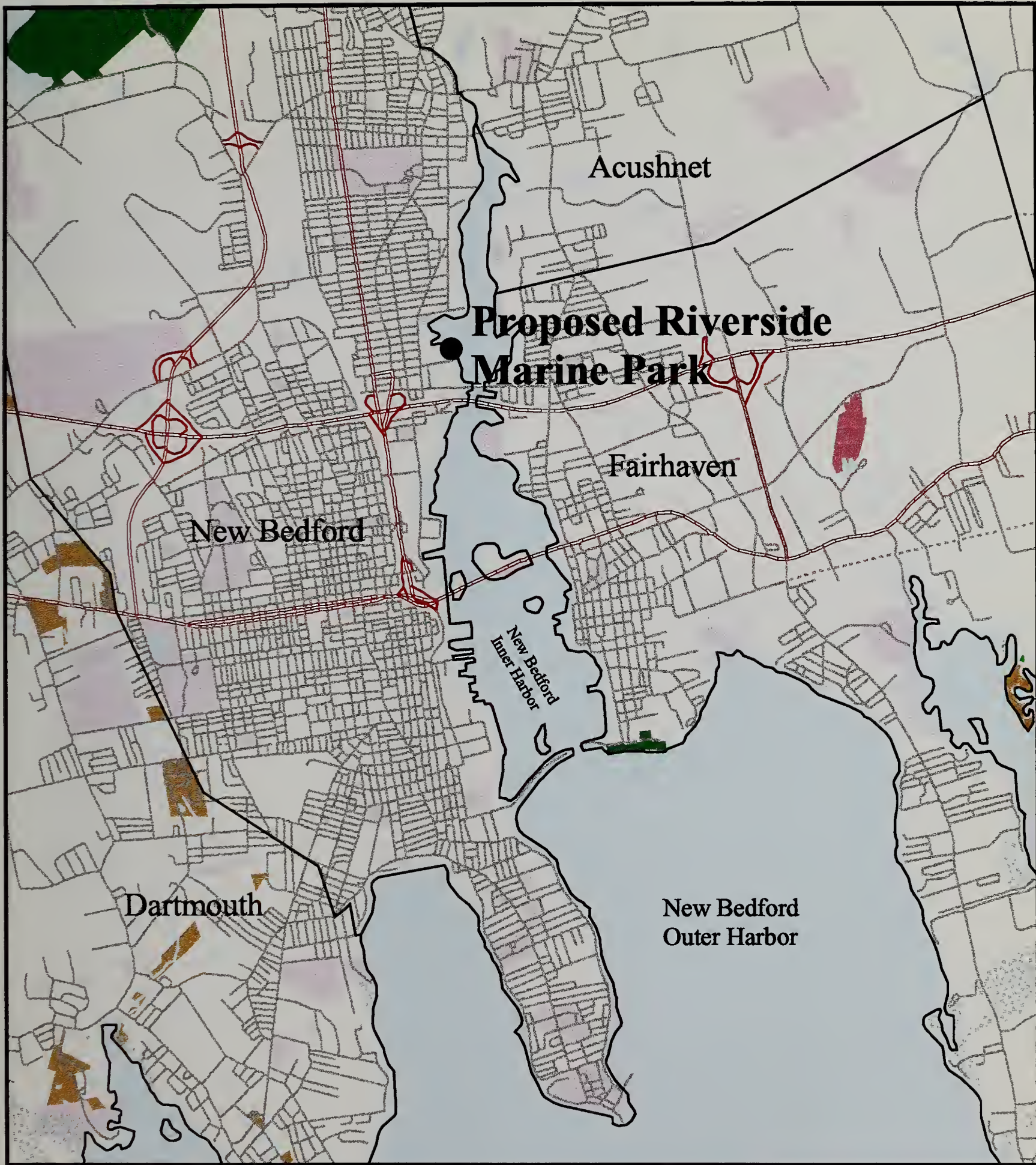
Telephone: (508) 979-5910

Summary:

The Hands Across the River Coalition (HARC) organized a community meeting with a largely Portuguese neighborhood to discuss ideas for a new shoreline park at the Acushnet River lagoon, an area opened recently by the demolition of the old Pierce Mill. In addition, HARC organized a design competition for interpretive signs that will educate the public about the area's habitat and wildlife. The grant supported the community meeting, awards for the design competition, and materials for the signs.



Photograph by Geordie Vining

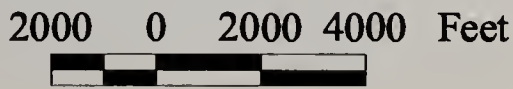


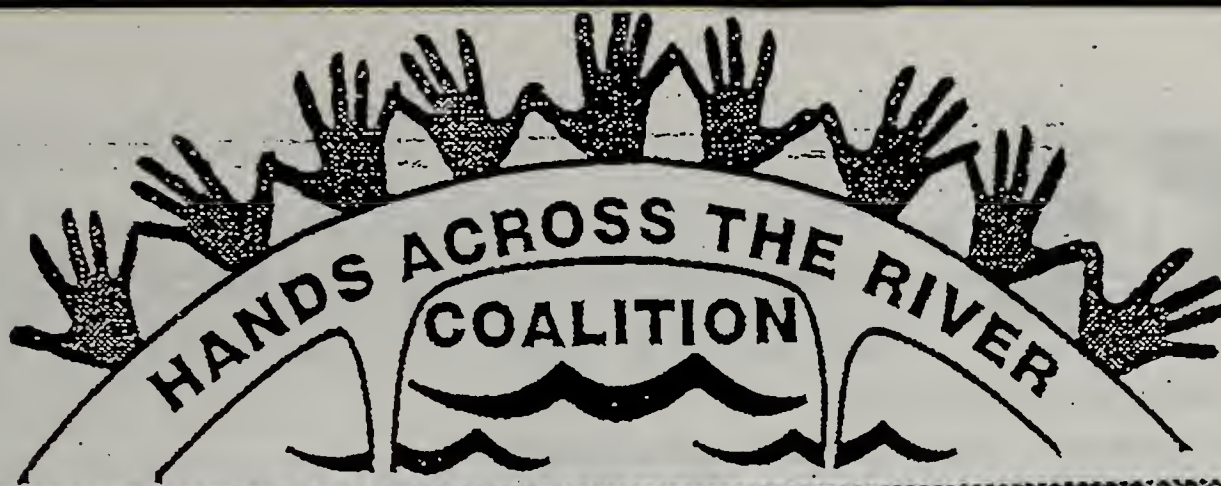
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- Wetlands
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 - State Route
 - US & Interstate

Hands Across the River Coalition

"Riverside Heritage Marine Park"

1997 DEM Coastal Access Grant





Gordie Vining
Department of Environmental Management
100 Cambridge St.' Boston, MA. 02202

The original project proposals for the Grant remained the same with the inclusion of an Environmental Artist contest for area schools from grades one through twelve. It was so successful that all of the area schools would like to make it an annual event.

The anticipated next steps for the project will be getting permission to place the two information stations and Welcome sign from the New Bedford Conservation Commission at the lagoon.

This cannot happen, I'm told, until 1998 when the new Mayor of New Bedford takes office with his Staff. Once this occurs, the timetable should be concluded by the end of 1998 for the Environmental Impact Study of the area; then implementation of the Park with the New Bedford Harbor Trustee Councils may begin.

I would like to say, at this time, that because of the Department of Environmental Management's small Grant which we received, the people of the area and all of the SouthCoast will now have access to the coast because of the education we were able to bring to the local officials and area residents.

Sincerely yours, /

JIM Simmons
President of H.A.R.C.



PEOPLE ACTING in COMMUNITY ENDEAVORS

President - RoseMarie Stolmeier Executive Director - Bruce Morell

December 17, 1997

Mr. Geordie Vining
Department of Environmental Management

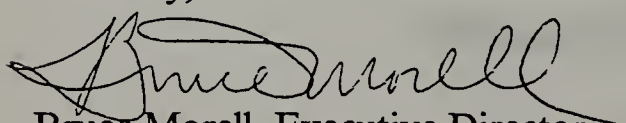
Dear Mr. Vining,

Below please find a listing of expenditures for the Hands Across the River Coalition/DEM \$3,000.00 grant. Each expenditure has back-up documentation at our fiscal office and is available upon request.

U. S. Post Office (Bulk mail for charette).....	\$ 401.28
Bruno's Office Supply (office supplies).....	\$ 15.75
National Pen Co. (Promotional materials).....	\$ 242.43
Sunset Restaurant/c/o Tony Soares (charette facility and refreshments).....	\$ 630.00
Bruno's Office Supply (office supplies).....	\$ 53.25
Environmental Art Awards Total.....	\$ 275.00
Winners	
Vishwanath Sjrinagesh.....	\$50.00
Stephanie Paiva.....	\$50.00
Katie Drouin.....	\$50.00
Petra Nowak.....	\$37.50
John Raposa.....	\$37.50
Diane Eaton.....	\$25.00
Yasmine Serdaravie.....	\$25.00
Ulysses Lapointe (construct information stations and welcome sign).....	\$1,390.00
Total.....	\$3,007.71

If you have any questions, please feel free to contact me directly.

Sincerely,


Bruce Morell, Executive Director
PACE, Inc.

ENVIRONMENTAL ARTIST CONTEST

presented by
Hands Across the River Coalition (HARC)
and the
Riverside Heritage Park
funded by
the Department of Environmental Management

ENTER AT: HARC, 222 Union Street, New Bedford,
(508)979-5910

ENTRY DEADLINE: Saturday, Sept. 20, 1997

WINNERS ANNOUNCED: Thursday, Sept. 25, 1997

AWARDS PRESENTED: Thursday, October 2, 1997

PRIZES

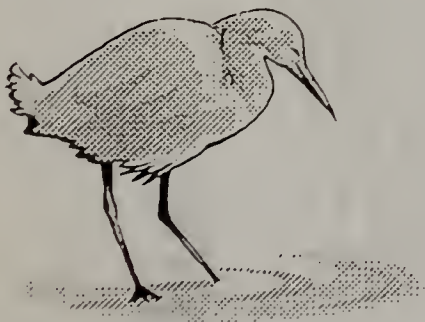
First, second and third prizes will be awarded in each division:

First: \$200.00 savings bond
Second: \$100.00 savings bond
Third: \$50.00 savings bond

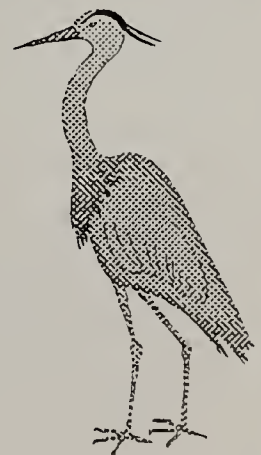
First place winners will have their works transferred to information stations at Riverside Heritage Park.

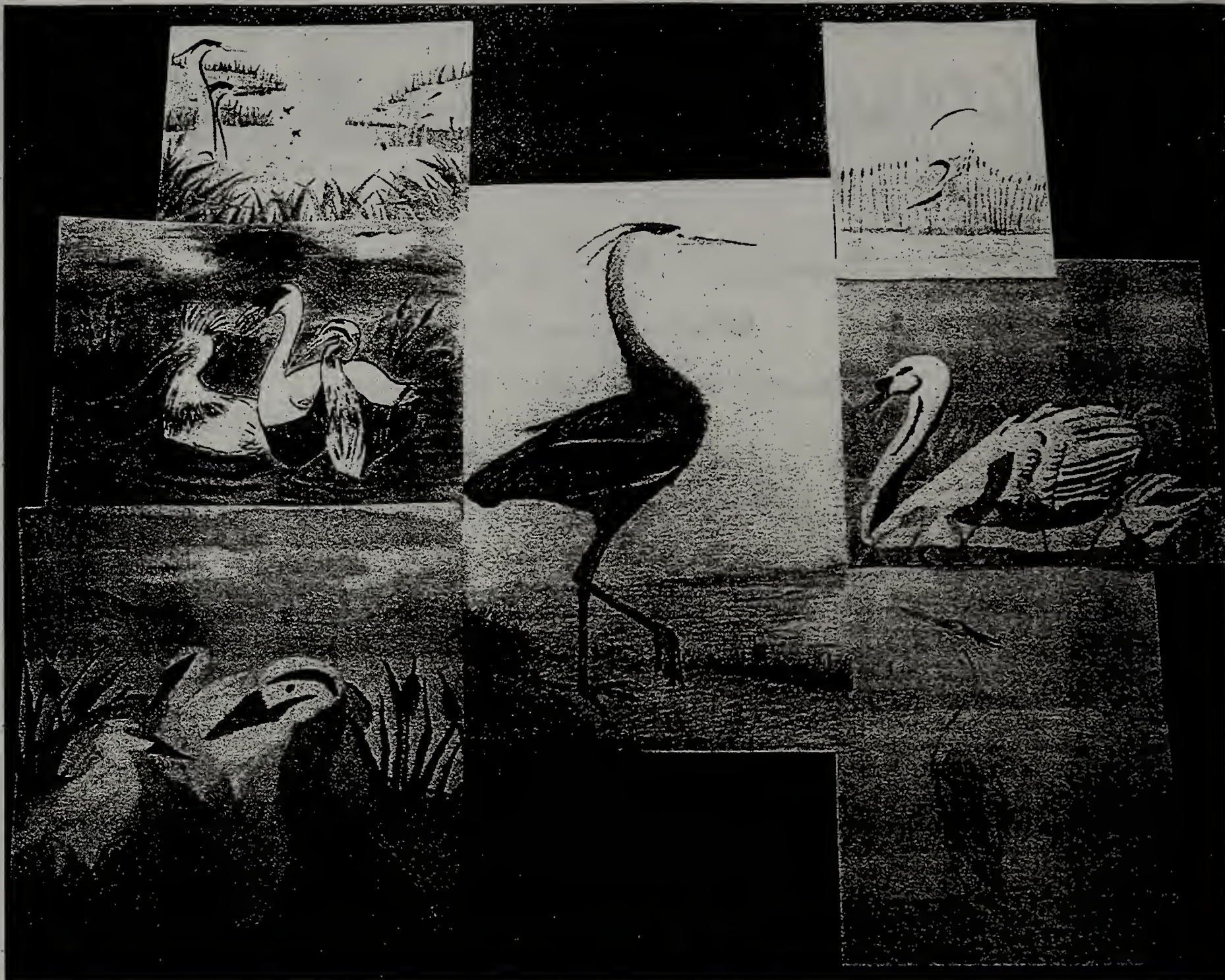
RULES

Artists should create an original and "lifelike" rendering using natural colors of the Snowy Egret, Mute Swan and/or Great Blue Heron. Completed works should be no smaller than 8 1/2" x 11" and no larger than 16" x 22". Be sure you include your name, entry division and phone number. Enter in one of three divisions:
Elementary (grades K-6)
Secondary (grades 7-12)
College (currently enrolled)



**SUPPORT YOUR COMMUNITY
AND ENVIRONMENT**





Staff photo by Ron Rolo

Waterfowl so fair

The graceful waterfowl of the SouthCoast were the subject of an art contest sponsored by Hands Across the River and backers of the proposed Riverside Heritage Park in New Bedford. More than 100 students from a dozen area schools submitted entries, with prize money provided by the

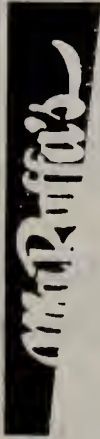
state's Department of Environmental Management. The division winners were: left, top to bottom, first, Stephanie Paiva, second, Petra Nowak, and third, Dione Eaton, all Greater New Bedford Regional Vocational-Technical High School; center, first, Vishwanath Urinagesh, Keith

Junior High School, New Bedford; and right, top to bottom, first, Katie Drouin, Rogers School, Fairhaven; second, John C. Raposa Jr., Gomes School, New Bedford; and third, Yasmin Serdarevic, Congdon School, New Bedford. Prize money ranged from \$50 to \$100.

Kaitlin . . . choice for a subject. Ms. Drouin's picture will be reproduced and incised in one of the information slathtions planned for the edge of the river in the future.

"There will be access to the", "general public," Mr. Simmons e, noted. "Her drawing will be on display for generations to come."

In addition to her perpetual fame, Kaitlin won a \$100 savings bond, to funded by the state Department of Environmental Management. This is of the first time she has entered her art work in a contest.



Fifth grader brings blue heron to life

Wins first place in environmental art contest

By LORI REBELLO
Editor

FAIRHAVEN - Rogers' School student Kaitlin Drouin captured a Great Blue Heron on paper along with first place in the Hands Across the River Coalition (HARC) Environmental Art Contest.

"It's amazing to me to see a fifth grader have so much talent. She is so precise and detailed," said President Jim Simmons of HARC of the choice.

her parents were especially excited for her.

Kaitlin plans to become a scientist someday.

"It's my favorite subject in school. I'm fascinated by how the food chain grows and how the world works. I think if we learn how things work, we can stop (mistakes) from happening again," she said.

Mr. Simmons said her attitude towards the environment follows HARC's philosophy.

"We can help reinvest in America and become ecologically educated," said Jim Simmons of HARC.

The coalition opened its first annual art contest to students in all area schools, including Fairhaven, Acushnet and New Bedford.

Kaitlin modestly described her winning art work.

"I'm not very good at drawing swans," she explained, "because it's hard to draw the black thing above the beak. The heron was much easier and fancier.... I was surprised I actually won first place."

Since Ms. Drouin has been dabbling in art for most of her young life, her other major interests being science and nature, the carefully crafted picture came easily to her.

"I didn't spend that much time on it," she admitted.

Regardless of the time she spent on it, her efforts paid off. She said

"It's very heartening to see people at that young an age aware of the environment," he said. "Our goal at HARC is to teach them at a very young age. It's good for kids at that age to realize the environment should come first."

He continued the children who understand how to care for nature will grow up practicing responsible environmentalism. With future fund raisers, he said, he'd like to hold art contests every year.

"We can help reinvest in America and become ecologically educated," he said.

As the main focus of the contest was the lagoon where the Acushnet River meets New Bedford Harbor, the Great Blue Heron was a fitting

(Please continue on page 3)



KAITLIN DROUIN, 10, put her interests in art and science to good use when she drew a picture of a Great Blue Heron, the winning Fairhaven entry in the first annual HARC Environmental Art Contest. (Photo by Lori Rebello)

PHONE NO. :

FROM : Panasonic TAD/FAX

THE HANDS ACROSS THE RIVER COALITION
222 UNION STREET
NEW BEDFORD, MA 02740

BULK RATE
U.S. Postage
PAID

Permit No. 48
New Bedford, MA 02745

TO - PAUL KOCZERA

Jim,

this
is the

Postcard →
that will
be sent

YOU ARE INVITED !!!

YOU ARE CORDIALLY INVITED TO A MEETING SPONSORED BY
THE HANDS ACROSS THE RIVER COALITION AND FUNDED BY
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT.

TOPICS TO BE DISCUSSED WILL BE HOW TO INCREASE ACCESS TO THE
ACUSHNET RIVER SHORELINE AND LAGOON
AND POTENTIAL DEVELOPMENT OF PIERCE MILL SITE AS A WATERFRONT PARK.

WHERE: CLUB RECORDACOES DE PORTUGAL
253 COGGESHALL STREET, NEW BEDFORD

WHEN: SUNDAY, APRIL 13, 1997 AT 1:00 P.M.

PLEASE ATTEND THIS VERY IMPORTANT MEETING AND VOICE YOUR
THOUGHTS, OPINIONS AND IDEAS ON HOW NEW BEDFORD CAN IMPROVE ITS
ACCESS TO THE RIVER.

HOT AND COLD BUFFET WILL BE PROVIDED FOR ALL PARTICIPANTS

FOR MORE INFORMATION CONTACT JIM SIMMONS AT 979-5910
OR COUNCILOR PAUL KOCZERA AT 992-7224

YOU ARE INVITED !!!

YOU ARE CORDIALLY INVITED TO A MEETING SPONSORED BY
THE HANDS ACROSS THE RIVER COALITION AND FUNDED BY
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ENLARGED
FOR YOU TO
PROOF

1997 Coastal Access Grants Program

Project Name: **BROAD COVE COASTAL ACCESS PATH
RESEARCH PROJECT**

Location: **Somerset**

Grant: **\$3,000**

Organization: **Town of Somerset, Conservation Commission**

Contact Person: **Christina Wordell**

Address: **140 Wood Street
Somerset, MA 02726**

Telephone: **(508) 646-2806**

Summary:

The Town of Somerset continued its research for the development of a trail around the scenic and largely undeveloped Broad Cove tidal embayment. This work built upon the foundation of last year's grant-funded survey and topographic plan of the area. About 4 acres of the 14.9 acre Broad Cove lies within the Town of Somerset. The Town commissioned a "biocensus" and wildlife habitat evaluation of the bay and salt marsh of Broad Cove, which will provide natural history information for future interpretive materials as well as guide the location of the proposed boardwalk. The grant supported the field study and trail route design by a wildlife biologist.



Photograph by Christina Wordell



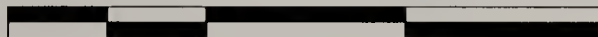
- Project Site
- Openspace by Ownership**
 - DEM
 - DFWELE
 - MDC
 - County
 - Municipal
 - Federal
 - Private Nonprofit
- Roads**
 - Unpaved
 - Secondary
 - Interchange
 - State Route
 - US & Interstate
- Wetlands

Town of Somerset

"Broad Cove Coastal Access Path"

1997 DEM Coastal Access Grant

2000 0 2000 4000 Feet





Town of Somerset Conservation Commission

SEPTEMBER 15, 1997

GEORDIE VINING, COASTAL ACCESS PLANNER
DEM
100 CAMBRIDGE STREET
BOSTON, MA 02202

RE: BROAD COVE COASTAL ACCESS PATH

DEAR MR. VINING,

I AM PLEASED TO ANNOUNCE THAT THE SOMERSET CONSERVATION COMMISSION HAS SUCCESSFULLY COMPLETED OUR SECOND YEAR OF THE "BROAD COVE COASTAL ACCESS PATH" PROJECT. THIS IS A MULTI-PHASE PROJECT. THE SMALL GRANT PROGRAM HAS AFFORDED THE COMMISSION SEED MONEY TO BEGIN THIS PROJECT. OUR 1996 GRANT ENABLED US TO HAVE A TOPOGRAPHIC SURVEY OF THE BROAD COVE AREA AND THE BOUNDS OF ALL TOWN OWNED PROPERTY SURROUNDING THE COVE WERE SURVEYED AND STAKED. THE 1997 GRANT MONEY WAS USED TO DO A BIOCEUSUS AND WILDLIFE HABITAT EVALUATION OF THE BROAD COVE AREA IN PREPARATION FOR THE LAYOUT OF THE ACTUAL TRAIL IN ORDER TO HIGHLIGHT AND AVOID SENSITIVE AREAS. WE CONTRACTED WITH PROFESSOR JAMES R. SEARS AT THE UNIVERSITY OF MASSACHUSETTS, DARTMOUTH, BIOLOGY DEPARTMENT. DR. SEARS ALONG WITH A GRADUATE STUDENT SPENT SIX DAYS IN THE FIELD. THEY INVENTORIED THE VEGETATION OF THE HIGH AND LOW MARSH. STUDIED THE NITROGEN LOADING OF THE COVE AND ADJACENT UPLANDS, LISTED THE ALGAE, PLANTS AND ANIMALS OF BROAD COVE. HIS REPORT AND ACCOMPANYING OVERLAY PLAN SHOWED AREAS OF SIGNIFICANT PLANTLIFE AND POINTED OUT VISTA AREAS. THE PLAN ALSO NOTES AREAS FOR BIRDHOUSES TO BE ERECTED.

THIS SECOND PHASE OF STUDY HAS MADE US REFLECT ON OUR INITIAL PLAN FOR A BOARD-WALK AROUND THE ENTIRE COVE. DR. SEARS POINTED OUT THAT WE WOULD PROTECT THE MARSH BY KEEPING THE BOARDWALK TO THE PERIPHERY AND USE "SPURS" TO LEAD OUT TO THE HIGH MARSH AND THE EDGE OF THE LOW MARSH, AS OUR ORIGINAL LOCATION WOULD SIGNIFICANTLY BLOCK THE VIEW OVER THE MARSH AND BAY FROM THE UPLAND.

OUR NEXT STEP WILL BE TO OBTAIN GRANT FUNDING FOR ARCHITECTURAL/CONSTRUCTION PLANS OF THE BOARDWALK.

THE COMMISSIONS PARTICIPATION IN THIS GRANT PROGRAM HAS BEEN A BENEFICIAL EXPERIENCE, WHERE WE HAD A CONCEPT, THROUGH THE HELP OF ALL THOSE INVOLVED WE HAVE COME TO UNDERSTAND THE AREA AND OUR PROJECT IN A BROADER WAY.

WE HAVE HAD OTHER PEOPLE FROM OUTSIDE THE AREA SEE BROAD COVE FOR THE UNIQUE AREA IT IS AND THROUGH THEM AND THIS PROCESS IT HAS MADE OUR BELIEF IN THE WORTHINESS OF THIS GOAL STRONGER. IT HAS GENERATED ENTHUSIASM THROUGH THE COMMUNITY AND BROUGHT AWARENESS TO BROAD COVE. THE SOMERSET GARDEN CLUB HAS DEDICATED THEIR 1998 CALENDAR TO THE BROAD COVE PROJECT.

IT HAS BEEN A PLEASURE WORKING WITH GEORDIE AND JOHN LOPEZ. IT WAS ESPECIALLY EXICITING TO HAVE MET COMMISSIONER PETER WEBBER AND TO HAVE RECEIVED A CERTIFICATE OF RECOGNITION FOR THIS PROJECT. THANK YOU.

RESPECTFULLY,
THE SOMERSET CONSERVATION COMMISSION

Christina G. Wallace

cc: COMMISSION

CW

INVOICE FOR CONSULTING SERVICES PROVIDED

BY

JAMES R. SEARS
25 Gaffney Road
South Dartmouth, MA 02748

for

A BIOCEANSIS AND WILDLIFE HABITAT EVALUATION OF THE BAY AND SALT
MARSH OF BROAD COVE, SOMERSET, MA

prepared for the
Somerset Conservation Commission

Services provided by James R. Sears

1. Inventoried plants, common algae (seaweeds) and invertebrates of the low and high marshes, birds of the bay marsh and shrub border and made a habitat, wetland and plant evaluation of Broad Cove;
2. Provided a list of all plants and animals by common and scientific name;
3. Provided natural history information on selected or unusual organisms that would be useful for your proposed pamphlet;
4. Prepared a composite map from combining the engineer's map and aerial photographs taken to map the distribution of dominant vegetation, surface features and other unusual features of the marsh;
5. Indicated best positions for boardwalk and "spurs" over the high marsh;
6. Suggested kinds and optimal locations of nesting boxes;
7. Discussed potential problems with nitrogen leaching from upland lawns and from freshwater intrusion on high marsh;
8. Provided represented aerial and ground photos of Broad Cove

6 days field work@ \$400/day.	2400
48 hours graduate student assistance	384
Report writing & preparation (10 copies)	800
SUBTOTAL	3584

Please let me know if the enclosed report is what you need and expected. I have provided the original and 9 copies of the report and the map. Once you have accepted my report please send a check for \$3584 to me at: 25 Gaffney Road, South Dartmouth, MA 02748.

THE UNIVERSITY OF CHICAGO

1912

THE UNIVERSITY OF CHICAGO
OFFICE OF THE PRESIDENT
CHICAGO, ILLINOIS

TO THE PRESIDENT OF THE UNIVERSITY OF CHICAGO
FROM THE FACULTY OF THE UNIVERSITY OF CHICAGO
RESOLUTION PASSED AT A MEETING OF THE FACULTY
Held at the University of Chicago, Chicago, Illinois, on the 15th day of May, 1912.

Resolved, That the Faculty of the University of Chicago
do hereby express its appreciation of the services rendered
by the President of the University of Chicago, Mr. [Name],
during his term of office, and do hereby express its
confidence in the future of the University of Chicago.

Witness my hand and the seal of the University of Chicago
this 15th day of May, 1912.

Very truly yours,
[Signature]

A BIOCECENSUS AND WILDLIFE HABITAT EVALUATION OF THE BAY AND SALT MARSH OF BROAD COVE, SOMERSET, MASSACHUSETTS

James R. Sears

INTRODUCTION:

Broad Cove lies on the Somerset, Dighton town line on the west side of Pleasant Street in the Towns of Somerset and Dighton, Massachusetts. This tidal embayment connects to the Taunton River Estuary by an unobstructed channel about 50 feet wide which passes under the Pleasant Street bridge. Broad Cove is 14.9 acres of which about 4 acres lie in Somerset. This report covers only that section of Broad Cove that lies within the town of Somerset, though much of what is included here is also probably also true for the Dighton portion of Broad Cove.

Broad Cove is bordered by salt marsh and adjacent uplands. Pleasant Street lies to the east, North Street Carol Street, and Kenmar Drive to the south, and County Street to the west. Between the salt marsh and these roads there is a shrub border or a shrub border backed by mixed woodlands from a few to 200-300' wide. Like other New England salt marshes, the marsh at Broad Cove is a nearly flat wet meadow subject to periodic tidal flooding. It is dominated by two grasses, saltmarsh hay, *Spartina patens*, of the high marsh and salt water cordgrass, *Spartina alterniflora*, of the low marsh.

The low marsh occupies a horizontal band from a few to 10-20' wide. The high marsh is more extensive and grades to a shrub border dominated by marsh elder, *Iva frutescens*, at its highest elevations near its upland border. Several other species of salt tolerant grasses, rushes and sedges are present in the high marsh, along with forbs (non-grass flowering plants) and marsh elder. The high marsh ranges in horizontal distance from a few feet near the outlet to 350-400 feet at the southeast corner, but throughout most of the salt marsh the high marsh is approximately 100-150 feet wide. The high marsh is flooded only during high spring tides for several days twice monthly, or during storm-driven tides. The low marsh, lying between mean low water and mean high tide, is flooded twice daily during high tides.

The open waters, the salt marsh and the shrub border, each with its distinctive plant cover, provide important habitats for birds, fish and invertebrate animals. Their livelihoods, and that of the vegetation, depend on the daily flooding and ebbing of sea water. Broad Cove, along with "The Marsh" and other tidal lands of Somerset, are thus important resources which help maintain the natural biological diversity in Somerset. The plants and many animals are permanent residents of

Broad Cove, but migratory fish and birds come and go and depend on the salt marsh and tidal waters for food, breeding and resting. The Massachusetts Natural Heritage and Endangered Species Program reported in WH 388 in the Massachusetts Natural Heritage Atlas, 1997-98 two threatened or endangered animals as occurring in Broad Cove. The Atlantic Sturgeon and the Spotted Terrapin have been reported at least once in Broad Cove. The Atlantic Sturgeon is listed as "Endangered" in Massachusetts, and the Spotted Terrapin turtle is listed as "Threatened" in the State.

In addition to its natural biological diversity and marsh productivity, Broad Cove also has great aesthetic value to the town. It is a place of natural scenic beauty, and it provides natural wetland habitats for watching birds and other animal and plant life. It is important for residents of Somerset, and visitors to Broad Cove, to learn about and come to appreciate the fauna and flora and ecological processes of the Cove, and to understand the ecological processes of the marsh if Broad Cove is to remain a healthy and productive environment.

One way of helping the general public, school children and residents to appreciate this natural resource is to encourage individuals and groups to discover the natural history of the marsh by first hand, direct observation. To aid and encourage visitors to view the marsh and bay, the Somerset Conservation Commission proposes to provide them with easy access to Broad Cove. A boardwalk extending around the periphery of the marsh, with extensions or "spurs" out onto the marsh, will provide safe access while protecting the marsh surface from foot traffic. The Town's proposal to build such a board-walk will help educate the public of the biological, economic and aesthetic importance of the marsh and waters of Broad Cove, and thus will help to protect the biological diversity of the Cove. Public education is the surest way to protect this valuable town natural resource.

The Somerset Conservation Commission has proposed to establish a boardwalk around the Somerset portion of the marsh of Broad Cove. To make application to State agencies for funding and permits for developing this environmentally sensitive access to Broad Cove's marsh and open waters, the Commission has arranged for this biotic census, map and description of the resident biota. Based on several on site visits to the marsh, a biotic census of fauna and flora was made. From field observations and aerial (helicopter) photographs of Broad Cove taken from a helicopter, I have mapped the distribution of the dominant vegetation of the salt marsh and drawn attention to outstanding biological and geological features of the marsh, and have indicated a course for the proposed boardwalk. In this report I have also indicated areas for location of bird boxes, have described the general distribution of the fauna and flora and have discussed the role, potential sources and effects of nitrogen eutrophication

and freshwater run-off on the marsh and its biota.

Recommendations for location of a proposed boardwalk.

The proposed general location of the boardwalk, as presented to me, was somewhat tangent to, but back from the edge of the marsh. This route over the marsh would have been within a few feet of the edge of the marsh in some places and further back into the high marsh in others. The boardwalk would pass through the *S. patens* and assorted other grasses and forbs of the high marsh, as well as through an area of the low marsh dominated by *S. alterniflora*, and along a ditch near the stand of *Scirpus robustus*. Further along it would pass near the stand of cattails and the stand of Olney's bulrush, *Scirpus americana*, an area where there likely is freshwater intrusion. The advantage of this circuit boardwalk along the edge of the marsh is that it is continuous and extends almost the full length of the shore in Somerset. The disadvantages of locating the boardwalk on the outer edges of the high marsh is that it would significantly block the view over the marsh and bay from the upland. If a railing is required, the visual impact would indeed be great. If the main part of the boardwalk were located out on the marsh, it would not offer protected or shaded areas for sitting. Further, since the longest run would be aligned on an east-west axis the boardwalk would cast continuous shade beneath its northern side during most of the day. Parts that were in more of a north-south alignment would cast a shadow only half the day in once place.

As an alternative route throughout the salt marsh I would recommend a location of the boardwalk around the outer reaches of the salt marsh, around its upland edges along the marsh side of the *Iva frutescens* shrub border (Map, Figure 10) Marsh grasses are often absent from this narrow band between the shrub border and high marsh grasses, either black grass or saltmarsh hay. Flotsam and jetsam of dead saltwater cord grass of the previous year's growth is cast by spring tides along the upper edge of the high marsh. There it often smothers and eventually kills the black grass or saltmarsh hay of this upper transition zone. This area adjacent to the shrub border, then, seems like the part of the marsh that would be least affected by a boardwalk. In addition, there are several places along the periphery of the high marsh that could provide rest and good visual access to the marsh if benches were provided.

"Spur" boardwalks would lead out onto the high marsh to the edge of the low marsh at several locations. These spurs and the suggested location of the peripheral boardwalk are shown on the map (figure 10). Spur boardwalks extend out onto the marsh at about ninety degrees from the perimeter

walk in several places (e.g., along a ditch, past interesting plants, pudding stone, peat deposits etc.) near the bank of *Spartina alterniflora* of the low marsh. A spur might include a circular loop or a "T" at the end to allow for a group to gather while facing and listening to a naturalist speak, or some such multi-person usage. Several of these spurs would provide access to a variety of habits on the marsh and at the water's edge without visually blocking the view out over the marsh because they would run at 90 degrees to the marsh border rather than parallel or tangent to the marsh's borders. From shore, a spur could extend from the shrub border and the transition zone of marsh elder through black grass and spike grass into a wet meadow of saltmarsh hay, and eventually parallel to a creek and outward to the low marsh of saltwater cord grass, perhaps even to the muddy peat bank and slope of the bay. From there one could view the outer edge of the marsh from the water. The bird watching near the shrub border would be rewarding, and shore birds and waders would not be subject to as much disturbance if the main part of the boardwalk were set back along the upland/wetland border.

Interesting features along boardwalk spurs: Numbers of spurs and the progression around the marsh begins with spur # 1 near the bay opening to Taunton River, adjacent to the old railroad bed, and extends south, then west along the southern shrub border to the stream, across the stream to about the Somerset-Dighton town line. Numbers of drainage ditches also begin with #1 closest to the outlet. Please refer to map in Figure 10.

Beginning and Spur #1 - The Boardwalk begins at Spur #1 which extends from the old railroad bed, through an opening of the shrub border, over the narrow high marsh to the sediments of the bay below the low marsh. At low water oysters are abundantly visible (this is the area of the old oyster bank). The *S. alterniflora* is robust here, and during high tide this seaward extension of the boardwalk may provide views of small fish. Tufts of the delicate red alga *Caloglossa* occur on the peat bank, along with ribbed mussels and old burrow holes of fiddler crabs.

The boardwalk continues along the shrub border with good close up views of high marsh *S. patens* and low marsh. *S. alterniflora* beyond. Lots of bayberry and marsh elder form the shrub border and it is a great place from which to watch the sunset with the shrub border at the back. A bench facing west and built as part of the boardwalk would provide a sitting and viewing area.

Spur #2 - Part of this spur leads to the parking area along Pleasant Street for about 20' from the boardwalk, then the spur continues at 90 degrees to the boardwalk over the high marsh near the drainage ditch. For a shorter route this second spur could extend out from the boardwalk along the south side of the second drainage ditch, before the spur leading to the parking lot. Fiddler crabs burrow extensively along both of these drainage ditches and the crabs are easily seen foraging at low tide if you are quiet. They are easily spooked.

Immediately after the third drainage ditch the boardwalk leads over the mixed shrub, high marsh meadow. It passes through the marsh elder to help hide the boardwalk, and then it crosses the fourth drainage ditch. Beneath marsh elder of the high marsh are more fiddler crab burrows, and thin carpets of the alga *Vaucheria*. The tiny threads of this alga help to bind and hold marsh sediments together. Birds forage throughout this area, especially goldfinch in the fall. There is a small area of dune grass near the base of the island of trees and shrubs to the southeast of the boardwalk route. This little dune with a sparse covering of dune grass, together with the trees and shrubs, add to the diversity of habitats along the boardwalk.

Spur #3 - Between ditch #'s 4 and 5, spur #3 extends over extensive populations of goldenrod and saltmarsh aster. It is very colorful in the autumn. Red winged blackbirds and sharp-tail sparrows nest and forage in the tall *S. alterniflora* along the ditch banks. The *S. patens* of the high marsh is used by the seaside sparrow for nesting. Seaside sparrows, European starlings, and meadowlarks also use this extensive area of high marsh for foraging. The boardwalk then returns to the edge of the shrub border where for the next few hundred yards there is dense cover by marsh elder.

Benches built into the boardwalk near the oaks that extend to the marsh would give visitors a place to rest and a good vista of the marsh to the north. This would be a good viewing place for winter sea birds that likely use this cove. The boardwalk passes by several large glacial erratics of "pudding stone" laying on the high marsh. The boardwalk then turns north toward the water, passing the extensive colony of *Scirpus americanus* and *S. robustus*, the two common bulrushes of this marsh. It skirts the extensive colonies of *Phragmites* that extend around the base of Kenmar Drive and across the drainage ditch and soft peat there. It follows along the colony of narrow leaved cattails just to the west of the drainage area, and close to the extensive colony of *Phragmites* along the southern edge of the marsh.

Spur #4 - Extending away from the *Phragmites*, spur #4 passes a piece of pudding stone covered with lichens in the high marsh, across a large area of predominantly spike grass in the high marsh and next to an isolated colony of more *Phragmites* by the water's edge. View of the eroded bank between the high and low marsh, and old fiddler crab burrows have left big holes from erosion of the bank are visible there.

There is more *Scirpus robustus* as the boardwalk passes through the oaks and follows along the shrub border. Again, a few benches built into the boardwalk just beyond the passage through the oaks would give visitors a good view of the cove and a pleasant place to rest. There are two iron bars that cross the freshwater stream, and I would put a bridge at this narrow point of the stream to cross over the high marsh on the other side. There is lots of pudding stone in this area. There is likely to be a variety of song birds in this area with freshwater, rocks, trees, woods and marsh all close together.

The boardwalk would continue along to the dirt road just beyond the stone wall, about where the town line intersects the marsh. If this road were cleared it would give access to and from both ends of the boardwalk, one on Pleasant Street, the other along County Street. Several paths enter the woods just north of the stream, but these lead onto residential private property I believe.

Bird Boxes

Sites for bird boxes are indicated on the map (Figure 10). Tree swallows would nest in boxes about 6-10' above the marsh and 50-60 yards apart. Openings for tree swallows should be 1 1/2". There are numerous tree swallows that feed on insects over the marsh and the open water. I've also observed bluebirds feeding on insects at the marsh. They dart back and forth from the oaks near the marsh to feed on insects over the marsh grasses. Boxes with 1" openings and placed about 7' above the high marsh might attract these blue birds for nesting. Boxes could be 30-40' apart, a pair at the southeast corner and another pair near the creek at the south west corner.

Near the *Iva* and island of trees in the southeast area two more boxes with 1" holes would attract chickadees. I would recommend that when you are ready to put up bird boxes you contact Dr. John Twomey Jr. of the University, an amateur ornithologist who has put up many bird boxes at the UMass Dartmouth campus. He is quite knowledgeable about local birds and their nesting behavior. He mounts the boxes on a pipe and makes each box from one 5' - 1x 6". John lives in Swansea and his phone number is 508-678-1002, or at the University it is 999-8761.

VEGETATION:

VEGETATION:

Based on the distribution and cover by vegetation from upland to the lower edge of the marsh grasses, the Broad Cove salt marsh appears to be in good health. There are extensive stands of saltmarsh hay (*Spartina patens*) in the high marsh, and dense stands of the taller (reaching 5-6' in some areas) and coarser salt water cord grass (*Spartina alterniflora*) that dominant the low marsh. There are no conspicuous areas of marsh grass die-back or barren panne areas that would indicate depressions or water logged, poorly drained peat. The entire marsh is well drained and no standing water was seen during low water except at the bottom of the drainage ditches.

Where fresh water seepage occurs from adjacent upland the peat is soft, such as near the base of Kenmar Drive and to both the immediate east and west of this area (figure 3-5). In these areas subject to freshwater runoff, narrow and broad leaved cattails (*Typha angustifolia* and *T. latifolia*) and Olney's bulrush (*Scirpus americana*, formerly *S. olneyi*) have formed stands several hundred feet square. The tall reed grass (*Phragmites australis*) has also formed stands along the upper edge of the marsh, also reflecting a source of freshwater influence. While there is a catch basin at the base of Kenmar Drive, its likely that a lot of rainwater runoff flows out over the marsh instead of going through the culvert to the edge of the bay. These stands of *P. australis* warrant periodic assessment to make sure they are not creeping out on the marsh where they could replace *Spartina patens*. More effective management of freshwater run-off from the developments to the south, such as holding ponds built to the east, and drainage pipes that go to the bay may help to stem the spread of this invasive grass.

Phragmites usually dominants saltmarsh vegetation in marshes where tidal flushing has become impeded by tidal gates or other obstructions to the marsh outlet. Broad Cove has a large, unobstructed channel to the Taunton River Estuary that assures thorough tidal exchange between high and low water, and this unimpeded exchange of seawater should aid in keeping *Phragmites* in check. *Phragmites* is not as tolerant of salt water as are saltmarsh grasses, and its presence and apparent spread here is likely due to the intrusion of freshwater from the upland into the peat and over the marsh, thus removing its main deterrent to growth on an otherwise well flushed salt marsh. Refer to the lower diagram of Figure 9 for an explanation of how terrestrial freshwater run-off may influence the high marsh vegetation.

In summary, the vegetation of the high and low marshes of Broad Cove in Somerset appear healthy, dense and reproduce both vegetatively and by seed. The only problem is that of spreading

colonies of *Phragmites* probably due to the influence of fresh water and possibly further encouraged by nutrient enrichment from lawn fertilizers. The grasses and shrub border support a diversity of birds. A variety of wading and open water birds use the shore and open water on a daily basis for nesting, foraging and protection. The 5-6' height of the saltwater cordgrass of the low marsh banks and the nearly monospecific stands of salt marsh hay of the high marsh indicate that there is ample flushing of saltwater to provide necessary nutrients and remove toxic metabolites from the sediments.

Vegetation of the Uplands and Shrub Border

The upland vegetation bordering the salt marsh is varied. Species composition is probably a function of the amount of historic disturbance to each specific area. Along the parking lot and gravel path along an old roadway bed leading to where the original bridge stood, the upland vegetation is characteristic of disturbed areas. Most is shrubby with bayberry, winged sumac, black cherry, concord grape, poison ivy, bayberry and salt reedgrass. Herbaceous plants of lower stature include goldenrod, aster, orach, pigweed, sueda, evening primrose and sea rocket. Most of these plants colonize poor soil and disturbed areas such as occur along the gravel path. Continuous stands of marsh elder form the lower edge of the shrub border where they are subject to high spring and storm driven tides. Similar vegetation of the shrub border occurs along Pleasant Street.

The shrub border is less well defined in the wide, southeast corner of the marsh between Pleasant Street and near where Carol Street would intersect the marsh if it extended that far. There marsh elder still forms a nearly continuous border along the marsh edge of the shrub border there. In adjacent upland areas and where elevation differences exist out on the marsh there are scattered trees of eastern red cedar, gray birch, crabapple and service berry, along with shrubs of bayberry, sumac, northern arrowwood viburnum, pokeberry and poison ivy. This is an excellent habitat for a variety of birds (eastern bluebird, chickadee, marsh wren, and migrating warblers). A small patch of American beach grass occurs on the western edge of this tree/shrub island.

The presence of oaks to the west suggests an older, less disturbed vegetation there. Near where an old stone wall extends perpendicular to the marsh's edge, swamp white oak extends out on the marsh flat. Northern arrowwood viburnum, poison ivy, gray birch and crabapple grow along the upper edge of the marsh, and here in the shade marsh elder is absent. This area under the oaks provides a cool, shady spot that would make a pleasant sitting area from which to view the marsh and cove to the north.

Further to the west, near the base of Kenmar Street and beyond, the upper edge of the high marsh supports dense stands of *Phragmites* backed by a variety of trees (cherry, poplar, oak, gray birch) and vines (See photos in Figures 3-4 & 5). The upland border turns back to marsh elder backed by bayberry and oak beyond the creek.

Wherever marsh elder forms the upper edge of the marsh and tidal influence, the nearly monospecific stands are dense and are about 5-6' tall. At the lower edge of the marsh elder border flotsam and jetsam form a band, or in some areas there is a narrow band of mostly barren peat or consolidated sediments. This area is subject to most high spring tides, and the area of the marsh elder bank is subject to the very highest spring tides and storm tides.

Vegetation of the High Marsh

The high marsh is dominated by saltmarsh hay, but several other grasses, grass like rushes and forbs (non-grass like flowering plants) and marsh elder are prominent. The elevation at the lowest, bay's edge of the high marsh stands at about 3' above mean low water, at approximately mean high water, and is only flooded a few days each month, during spring tides and irregularly during storm high water. The high marsh extends in elevation to the level of spring high water tides where it meets the marsh elder shrub border.

There are numerous patches of a continuous cover of almost pure stands of saltmarsh hay on the high marsh. These are characterized in late spring through late fall by the 'cowlicks' or irregular pattern of matted down grass among areas where the grass remains upright (Figure 6). There is a joint near the base of the grass stem (culm) of saltmarsh hay. This gives the culms enough flexibility to lay flat without breaking. These stands are dense and very healthy looking.

At the upper regions of the high marsh, saltmarsh hay is often replaced by the black grass (*Juncus gerardii*), botanically a rush even though it superficially looks like a grass. Black grass begins its growth earlier in the spring than the grasses. It also has an aggressive type of growth that enables it to grow over and out-compete saltmarsh hay in the upper highmarsh. It is less tolerant of salt water than is either species of *Spartina* and thus is not competitive further out on the high or low marsh areas. By August the mature flower stalks of black grass turn reddish brown and contrast with the green of the saltmarsh hay (Figure 7).

Spike grass (*Distichlis spicata*) often mixes with saltmarsh hay, or may even form uniform stands near the lower edge of the high marsh. Spike grass is very common both in mixed stands with

saltmarsh hay and associated forms and by itself. In August its light colored spiky flower stalks, bearing fruits, and the arrangement of leaves that arise in a regular, alternate pattern on opposite sides of the stem, later to become curved inward, help to identify spike grass. It grows between 1-1 1/2' high. It is tolerant of higher salinities and more frequent flooding than saltmarsh hay. Spike grass is found throughout the high marsh at Broad Cove.

Forbs throughout the high marsh include seaside goldenrod, saltmarsh aster, pigweed, orach, and marsh pink. At the upper margins near black grass are *Salicornia*, sea lavender and *sueda*. Marsh elder extends out over the high marsh, likely at slightly elevated parts, especially in the large area at the southeast corner of the marsh. Out on the marsh flat the shrubs are much shorter than along the shrub border that is less subject to tidal flooding. *Spartina cynosuroides*, salt reedgrass, that occurs along the gravel railroad bed, also occurs along the upper edges of the high marsh in some areas.

Near the stone wall just east of Kenmar Drive there is a large stand of the bulrush, *Scirpus americana* that covers perhaps 300-400 feet square. Each of the three sides of the solitary triangular culms is strikingly concave, and the leafless plant stands 2-4' high in this area. The tight cluster of flowers, and by August the clustered cone-like seed heads, are lateral to the culm an inch or so below the tip. The sediments at this area of the marsh are very soft and are subject to freshwater runoff from adjacent upland and Kenmar Drive, though there is a culvert drain that carries most of the rain runoff further out onto the marsh (Figures 3-4 & 9). Adjacent to this stand of *Scirpus* is a large stand of *Phragmites* at the base of the street that extends to the west for about 200 yds (Figure 5).

Another interesting grass-like plant of the high marsh, especially where it grades to the short form of *S. alterniflora* in transition to the low marsh, is *Scirpus robustus*, the stout bulrush (Figure 6). There are several stands of this bulrush mixed in with *S. alterniflora* and *S. patens*, especially along drainage ditches. Its coarse triangular culms, and large, lateral cone-like fruiting stalks easily distinguish it from the grasses, though its leaves at first glance are similar to *S. alterniflora*. Both species of *Scirpus* on the marsh are part of the New England marsh flora, but they do not occur on all salt marshes. Neither is an endangered species.

Vegetation of the Low Marsh

The low marsh is dominated by nearly pure stands of saltwater cord grass, *Spartina alterniflora*, from about mean spring low water to mean high water (Figure 2). At Broad Cove the low marsh is strikingly defined by the presence of a bank that drops 12-18" from the high marsh along the bay's

edge. Along drainage creeks the transition between high and low marsh is more gradual with *S. alterniflora* growing from the edge of the ditch upward to where it gradually gives way to grasses of the high marsh. Here it helps define the edges of the drainage ditches from the bay to nearly where they end along the upland border. The band of *S. alterniflora* extends horizontally from a few feet, near the gravel path, to 30-40' in other areas, providing extensive habitat for birds that use this coarse saltmarsh grass for foraging and nesting.

The bank that separates the high and low marsh, and the lower one that defines the lower edge of the low marsh where it gives way to the sediments of the bay, are composed of peat. Because of the distinct upper bank, the transition between *S. patens* and *S. alterniflora* is quite sharp with little or no overlap of grasses. Crabs, mussels and other burrowing animals, along with wave action, have eroded part of the lower bank and have cut natural channels and little coves into the bank. The microtopography throughout the low marsh covered by *S. alterniflora* is very uneven with naturally formed small ditches, hummocks and holes.

Saltwater cordgrass grows vegetatively by long runners, and here and there below the peat bank these runners and upright culms extend to the gradual slope of the bay sediments adjacent to the bank. Most sediments below the bank are of gravel or loosely consolidated silt and peat. Most of the intertidal bay sediments are consolidated sand and gravel with scattered rocks, but at the southeast corner they are very soft, unconsolidated and rich in organic matter.

The peat banks support algae and a variety of invertebrates listed. Among the culms and rhizomes of *Spartina* occur ribbed mussels and algae. The fish and most of the invertebrates are either in the water column of the bay or live subtidally on the bottom of the bay. Small fish and fiddler crabs are common in the drainage ditches even at low tide.

Algae of the Bay and Marsh

The most noticeable marine alga of Broad Cove is *Ulva lactuca*. Sea lettuce, as it is commonly called, occurs on pilings and wood work in the low intertidal, but it is most conspicuous on the mud flats of the low intertidal and subtidal where it forms sheets a yard or more in diameter. Vast areas of the mud flats are completely covered by sheets of sea lettuce during the summer, and probably year-round at some locations. *Ulva* sheets may wash up during high water on the marsh flat where they eventually die and turn nearly white or tan.

The substantial biomass of green algal biomass that eventually decomposes in the bay and on the

marsh adds significantly to the food production of the marsh for myriad invertebrates. *Ulva* may form large sheets in natural unenriched coastal areas, but it often responds with rapid growth to eutrophication (nitrogen enrichment from fertilizer or septic runoff from land). Residential land surrounding Broad Cove is sewered, and has been since 1977 (date on manhole cover on North Street). Presumably then, septic systems do not leach into the pond currently, but agricultural or residential lawn runoff is a possible source of current nitrogen enrichment to the cove. The freshwater stream at the southwest corner of the cove is another possible source of nutrient enrichment to the cove waters.

Two large red algae of the bay are *Agardhiella subulata* and *Gracilaria tickvahliae*. I have not observed the bottom of the bay, but drift populations of one or the other of these thinly branched red algae occur there where light permits, for I've seen both washed on the peat banks and on the marsh flat. Their presence is normal for a bay of this sort where wave action is minimum and temperatures are warm in the summer.

Two small green algae, *Enteromorpha* sp. and *Blidingia minima* grow on the wood pilings and on rocks around the bay from the low to mid intertidal. Rockweeds (*Fucus spiralis* and *F. vesiculosus*) occur from the mid to upper littoral on rocks in the bay along the edge of the marsh in and on the jetty of the bridge. These and a salt marsh form of *Ascophyllum* often grow among the bases of *S. alterniflora* but I did not observe either of these on the peat in Broad Cove, probably because the stands of grasses are too dense to allow enough light to penetrate to the substratum. Mats of Cyanobacteria and the yellow green alga *Vaucheria* occur in thin areas of grass cover in the high marsh and along its edges.

One rather beautiful red algae that grows in small, dark purplish flattened tufts on woodwork, pilings and along the rocks and peat banks near the outlet channel is *Calloglossa leprieurii*. Its habitat is characteristically salt marshes and other low salinity coastal environments, but it does not occur in all marshes. Its occurrence in Broad Cove is the first time I have seen it in Massachusetts. It is quite common to the south from Rhode Island to the Tropics. It is at the northern most boundary of its distribution here in Massachusetts.

Nitrogen loading of Broad Cove from adjacent upland in Somerset:

Nitrogen is the primary nutrient of eutrophication in New England estuaries. Nitrogen is needed by plants and algae to make the photosynthetic pigment chlorophyll and to make amino acids and proteins that are needed for growth. Nitrogen is the major component of lawn fertilizers (e.g. in a 50 pound bag of "30-10-10" lawn fertilizer, 30 % is nitrogen yielding 15 lbs. of nitrogen). Nitrogen makes

plants green and stimulates them to grow vegetatively, i.e. to make foliage, or in the case of aquatic algae, more of themselves such as the dense populations of sea lettuce.

Nitrogen is part of a balanced ecosystem, but when too much enters from human activities we call it eutrophication. High concentrations of nitrogen can change the ecosystem in several ways. Common signs of eutrophication by nitrogen included increased turbidity, excessive phytoplankton growth and blooms, water discoloration, overgrowth by seaweeds at the expense of other plants such as eelgrass and marsh grasses, decreased oxygen in bottom waters and changes in the composition of the algal, plant and animal communities.

The excessive growth of the very large sheets of sea lettuce that are abundant along the shallow margins of the cove is likely a response to nitrogen loading of the bay. Too much nitrogen entering coastal waters excessively stimulates algal growth. Algae may discolor the water (usually phytoplankton) or may accumulate on the bottom (e.g. sea lettuce) where they eventually die and decompose. When the algae die, bacteria use all available oxygen in the water as they decompose the algae. The resulting anoxic condition of the water and sediments adversely affects nearby plants and animals of the marsh. Excessive quantities of algae may also lower the oxygen levels of water at night when they are not producing oxygen by photosynthesis (their own respiration uses oxygen just as animals do). If the water becomes anoxic, animals either leave or die.

Sources of nitrogen entering the bay from the Somerset side of Broad Cove could include atmospheric deposition, fertilizer runoff from nearby houses on Kenmar Drive, Carol and Broad Cove Streets and via the creek in the southwest corner and its watershed. Nitrogen often enters coastal waters from septic systems, but sewered areas would not present this nitrogen source. Based on studies done on Cape Cod (Geist, 1996) nitrogen entering watersheds from the atmosphere amounts to approximately 13 lbs/acre. Sources of atmospheric nitrogen include thunder-storms, volatilization and denitrification in nitrogen rich sediments and waters. Approximately 65% of the atmosphere nitrogen that enters forests surrounding the Waquoit Bay watershed on the Cape is retained by those forests, leaving 35% to leach into the estuary yielding about 4.5 lbs nitrogen/acre from natural atmospheric sources.

At Broad Cove lawn fertilizers are the greatest potential sources of eutrophication by nitrogen if the area is completely sewered. Drawing further on the Waquoit Bay study (Geist, 1996), it was estimated that home owners used between 43 lbs/acre and 130 lbs/acre each year at Waquoit Bay and Buzzards Bay respectively. It has further been estimated that about 25% of the fertilizer applied to lawns ends up in adjacent estuaries on Cape Cod and in Buzzards Bay. Thus, of the estimated average

of 85 lbs of nitrogen fertilizer/acre applied to lawns at the homes adjacent to Broad Cove and along Kenmar Drive, about 21 lbs of nitrogen/acre would enter Broad Cove where it would likely stimulate excessive algal growth. These values are only ball park figures. Some ecologists would put the figures at twice what I noted, while others have estimated levels of about half of the 25% runoff into coastal waters.

I offer these rough estimates of nitrogen run-off from lawns to bring to your attention potential sources and amounts of eutrophication by nitrogen from Somerset's immediate surrounding uplands. There are about 25 new homes in the immediate area under consideration. Using the values estimated above, and figuring about 1/3 of an acre /home site is lawn, nitrogen loading to the cove from these homes could add up to adding about 175 lbs of nitrogen (25 homes x .33 acres of lawn/home x 21 lbs nitrogen/acre) to the cove each year. This does not include what comes from Dighton or from the Taunton River, or from ground water or via streams. Use of weed killers on nearby lawns pose their own dangers, though most weed killers are selective herbicides and only kill broad-leaved plants. It might be prudent to inform all homeowners whose land runs off to the marsh of the dangers of using too much fertilizer and/or weed killer.

LIST OF ALGAE, PLANTS, INVERTEBRATES, BIRDS REPTILES
AND MAMMALS OF BROAD COVE, SOMERSET MA

GRASSES AND GRASSLIKE PLANTS: The dominant grasses of the marsh include the three *Spartina* species, spike grass, black grass and common reed. Others are common but are scattered over the marsh and in adjacent upland.

<i>Ammophila brevigulata</i>	American beach grass
<i>Distichlis spicata</i>	Spike grass
<i>Elymus reparius</i>	Wild rye
<i>Echinochola crusgalli</i>	Barnyard grass
<i>Juncus gerardii</i>	Black grass
<i>Panicum virgatum</i>	Switch grass
<i>Phragmites australis</i>	Common reed
<i>Scirpus americanus</i>	Olney's bulrush
(<i>S. olneyi</i>)	
<i>Scirpus robustus</i>	Stout bulrush
<i>Setaria geniculata</i>	Foxtail grass
<i>S. maritima</i>	Saltmarsh bulrush
<i>Spartina patens</i>	Saltmarsh hay
<i>S. alterniflora</i>	Saltwater cord grass
<i>S. cynosuroides</i>	Salt reedgrass or Big cordgrass
<i>S. pectinata</i>	Freshwater cord grass

FORBS: Most of these flowering plants occur throughout much of the high marsh or in the adjacent upland. The dominant forbs on the marsh in the summer and fall are seaside goldenrod, perennial saltmarsh aster and salicornia; the other species are common but represented by single or a few plants scattered throughout.

<i>Artemesia trifida</i>	Ragweed
<i>Aster subulatus</i>	Saltmarsh aster
<i>A. tenuifolius</i>	Large salt aster
<i>Atriplex patula</i>	Orach
<i>Cakile edentula</i>	Sea rocket
<i>Chenopodium album</i>	Pigweed
<i>Daucus carota</i>	Queen Annes's Lace
<i>Limonium carolinianum</i>	Sea lavender
<i>Lythrum saalicularia</i>	Purple loosestrife
<i>Oenothera biennis</i>	Evening primrose
<i>Pluchea purpuracens</i>	Marsh pink, Saltmarsh fleabane
<i>Potentilla palustris</i>	Marsh cinquefoil
<i>Potentilla arserenia</i>	Silverweed
<i>Rumex crispus</i>	Curled dock
<i>Salicornia europaea</i>	Common or Slender glasswort
<i>Solanum dulcamara</i>	Nightshade
<i>Solidago sempervirens</i>	Seaside goldenrod
<i>Solidago rugosa</i>	Rough stemmed goldenrod
<i>Spergularia marina</i>	Saltmarsh sand spurrey
<i>Sueda linearis</i>	Sea blite

SHRUBS/TREES: Except for the marsh elder and bayberry which constitute most of the shrub border and are subject to high spring tides, other trees and shrubs are part of the adjacent upland vegetation fringing the upper edges of the marsh.

<i>Amelancier canadensis</i>	Juneberry or Service berry
<i>Aronia arbutifolia</i>	Red chokeberry
<i>Cornus alternifolia</i>	Alternate leaved dogwood
<i>Iva frutescens</i>	Marsh elder
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Myrica pensylvanica</i>	Bayberry
<i>Juniperus virginiana</i>	Eastern red cedar
<i>Parthenocissus quinquefolia</i>	Virginiacreeper
<i>Populus tremuloides</i>	Quaking aspen, Poplar
<i>Pyrus virginiana</i>	Cherry
<i>Pyrus prunifolia</i>	Crab apple
<i>Quercus bicolor</i>	Swamp white oak
<i>Quercus rubra</i>	Red oak
<i>Rhododendron viscosum</i>	Swamp honeysuckle
<i>Smilax rotundifolia</i>	Greenbrier
<i>Rhus copallina</i>	Winged sumac
<i>Toxicodendron radicans</i>	Poison ivy
<i>Viburnum recognitum</i>	Northern arrowwood

ALGAE: Most of these algae are either attached to pilings, rocks or culms of *Spartina* of the low marsh; *Gracilaria* and *Agardhiella* are part of a drift population of the open water. *Vaucheria* grows on the peat banks and on the high marsh beneath grasses or marsh elder where it forms a fine mossy covering. *Ulva lactuca* is the most abundant alga and it forms large sheets over the shallows of the bay.

Reds

Caloglossa leprieurii
Ceramium spp.
Gracilaria tikvahiae
Agardhiella subulata
Polysiphonia spp.

Browns

Ectocarpus siliculosus
Fucus spiralis
Fucus vesiculosus
Pilayella littoralis

Greens

Blidingia minima
Enteromorpha spp.
Monostroma oxyspermum (attached to stones in the freshwater creek subject to tidal flooding)
Ulva lactuca

Yellowgreens

Vaucheria spp.

INVERTEBRATES: These invertebrates are either of the water column, in the peat banks or on the sediments of the cove. Many additional invertebrates come and go with tidal flow and are part of the plankton. These are not included.

<i>Aurelia aurita</i>	Moon jelly
<i>Balanus eburneus</i>	Ivory or marsh barnacle
<i>Callinectes sapidus</i>	Blue crab
<i>Carcinus maenas</i>	Green crab
<i>Crossostrea virginica</i>	Common or American oyster
<i>Gammarus palustris</i>	Amphipod
<i>Geukensia demissa</i>	Ribbed mussel
<i>Ilyanassa obsoleta</i>	Mud snail
<i>Libinia emarginata</i>	Spider crab
<i>Limulus polyphemus</i>	Horseshoe crab
<i>Littorina littorea</i>	Common periwinkle
<i>Melampus bidentatus</i>	Saltmarsh snail
<i>Mya arenaria</i>	Softshell clam
<i>Nereis virens</i>	Clam worm
<i>Orchestia grillus</i>	Saltmarsh flea
<i>Palaemonetes vulgaris</i>	Grass shrimp
<i>Uca pugnator</i>	Fiddler crabs
<i>U. pugnax</i>	"
<i>U. minax</i>	"
<i>Urosalpinx cinerea</i>	Oyster drill

FISH

<i>Acipenser oxyrhynchus</i>	Atlantic sturgeon
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(Listed as "Endangered in Massachusetts" by the Mass. Division of Fisheries and Wildlife) Reported by the Mass. Natural Heritage & Endangered Species Program but not observed during this study) The Atlantic sturgeon is anadromous; it hatches in brackish waters and matures in saltwater, later to return to brackish or fresh water to spawn. Given the muddy bottom and relatively quiet waters of Broad Cove, and short freshwater streams, it is not likely a spawning ground for this fish.

<i>Alosa pseudoharengus</i>	Alewife
<i>Apeltes quadracus</i>	Stickleback
<i>Cyprinodon variegatus</i>	Sheepshead minnow
<i>Fundulus majalis</i>	Striped killifish
<i>Fundulus heteroclitus</i>	Mummichog
<i>Marone saxatilis</i>	Striped bass
<i>Menidia menidia</i>	Atlantic silverside
<i>Pleuronectes americanus</i>	Winter flounder
<i>Pomatomus saltatrix</i>	Bluefish
<i>Stenotomus chrysops</i>	Scup
<i>Syngnathus fuscus</i>	Pipefish

INSECTS

<i>Aedes sollicitans</i>	Saltmarsh mosquito
<i>Tabanus americanus</i>	Greenhead fly
	Grasshopper
	Monarch butterfly
	Swallow tail butterfly
	bumble bee
	cricket

REPTILES

Malaclemys terrapin terrapin Northern diamondback terrapin

(Listed as "Threatened in Massachusetts" by the Mass. Division of Fisheries and Wildlife) Reported by the Mass. Natural Heritage & Endangered Species Program but not observed during this study). Only 17 known occurrences of the Northern diamond back terrapin in Massachusetts.

BIRDS

Many more birds use the marsh and surrounding woodlands than listed, but these are one observed by myself or visitors to the Broad Cove. Winter sea birds may use the marsh waters, and spring and fall migrating birds not observed during late summer would likely be passing through.

Wading Birds

<i>Egretta thula</i>	Snowy egret
<i>Casmerodius albus</i>	Great egret
<i>Ardea herodias</i>	Great blue heron
<i>Butorides striatus</i>	Green heron

Birds of the Open Bay Waters

<i>Anas platyrhynchos</i>	Mallard duck
<i>Anas rubripes</i>	American black duck
<i>Anas</i> sp.	Teal
<i>Branta canadensis</i>	Canada goose
<i>Fulica americana</i>	American coot
<i>Larus delawarensis</i>	Ring-billed gull
<i>Larus argentatus</i>	Herring gull
<i>Mergus serrator</i>	Red-breasted merganser
<i>Phalacrocorax auritus</i>	Cormorant
<i>Sterna hirundo</i>	Common tern

Birds of the Shore

<i>Aythya marila</i>	Greater scaup
<i>Charadrius vociferus</i>	Killdeer
<i>Calidris</i> spp.	Sandpiper species
<i>Tringa melanoleuca</i>	yellowlegs

Birds of the Marsh and Adjacent Uplands

<i>Sternus vulgaris</i>	European starling
<i>Sialia sialis</i>	Blue bird
<i>Melospiza melodia</i>	Song sparrow
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Ammodramus caudacuta</i>	Sharp tailed sparrow
<i>Ammodramus maritima</i>	Seaside sparrow
<i>Carduelis tristis</i>	American goldfinch

<i>Cyanocella cristata</i>	Blue jay
<i>Corvus brachyrhynchos</i>	Crow
<i>Dumatella carolenensis</i>	Gray catbird
<i>Cistothorus palustris</i>	Marsh wren
<i>Irodropcne bicolor</i>	Tree swallow
<i>Megaceryle alcyon</i>	Belted kingfisher
<i>Mimus polyglottos</i>	Mocking bird
<i>Parus atricapillus</i>	Black-capped chickadee
<i>Quiscalus quiscula</i>	Common grackle
<i>Sturnella magna</i>	Eastern Meadowlark
<i>Turdus migratorius</i>	American Robin
Warbler species	Warbler species
<i>Zenaida macroura</i>	Mourning dove

Raptors

<i>Circus cyaneus</i>	Northern Harrier hawk, Marsh hawk
<i>Haliaeetus leucocephalus</i>	Bald eagle
<i>Pandion haliaetus</i>	Osprey

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PROPOSED BOARDWALK
AND
DISTRIBUTION OF VEGETATION
BROAD COVE, SOMERSET, MA

PREPARED FOR
SOMERSET CONSERVATION COMMISSION
SEPTEMBER, 1997
JAMES R. SEARS

